MILITARY REVIEW

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OUR AUTHORS

Beginning with this issue, we are introducing two new features in the MILITARY REVIEW.

The first, which we are calling "Our Authors," will tell you something about the authors whose articles are being printed in the current issue.

The second, entitled "Books for the Military Reader," will list some of the current books on military or allied subjects.

Lieutenant Colonel George A. Carver was a member of the 1947-1948 class of the C&GSC. During World War II, he commanded the 542d Field Artillery Battalion of the 42d Infantry Division. Later, he served in Vienna as Assistant Inspector General of US Forces in Austria.

Captain Robert R. Smith is assigned to the Historical Division, Department of the Army. He served for two years in the G-3 Historical Section, GHQ, Southwest Pacific Area, and is now engaged in writing a volume in the Army historical series on World War II covering the period from the Hollandia and Aitape operations to the Morotai and Palau operations. His article is based on material contained in his volume, tentatively entitled *The Drive to the Philippines.*

Colonel Robert N. Young became the Director of the Department of the Commander and General Staff last year when that new department was established at the C&GSC. Previously, he was Commandant of the School of Combined Arms. During World War II, he served as Secretary of the War Department General Staff, and as Assistant Division Commander of the 70th and 3d Infantry Divisions. He also served as Commanding General of the Military District of Washington. He is currently being reassigned as Chief of Staff, US Army, Pacific.

Colonel C. P. Stacey is Director of the Historical Section of the General Staff, Canadian Army. He went overseas in 1940 as Historical Officer of Canadian Military Headquarters in London, and supervised the historical program of the Canadian Army Overseas throughout the war. Besides *The Canadian Army 1939-1945,* from which his two articles on Dieppe are taken, he is the author of several other books and articles on military subjects.

Colonel Henry G. Sheen was chief of the Counter Intelligence Corps of the Army in 1941-1942, and then successively Assistant to the Assistant Chief of Staff, G-2, Headquarters ETO; Allied Force Headquarters in the Tunisian, Sicilian, and Italian campaigns; and SHAEF in the Normandy, Northern France, and Ardennes-Alsace campaigns. From July 1945 to August 1946, he was chief of Counterintelligence, Office of Military Government for Germany.

Lieutenant Colonel Forrest Caraway served as a battalion commander and division and corps general staff officer in World War II. He was in the Normandy, Northern France, Rhineland, Ardennes, and Central Europe campaigns, and was

(Continued on page 112)

The Organization of American States

Lieutenant Colonel George A. Carver, *Field Artillery*
Instructor, Command and General Staff College

Introduction

THE Organization of American States came into formal being at the Ninth International Conference of American States in Bogota, Colombia, 14-30 April 1948. In spite of the tumult and excitement aroused by the Bogota revolt on 9 April, the representatives of 21 American states convened and drew up a charter for the inter-American system.

The system is not new. The charter simply codifies and gives permanent legal form to the former loose and indefinitely organized Pan American system which dates back more than half a century. During the past 60 years, the representatives of the American states have convened periodically for the purpose of discussing problems of mutual interest and concern. These conferences, together with the treaties and agreements resulting therefrom, have provided the loose framework of an international organization unparalleled in history for its success in maintaining good will and cooperation among the member nations.

Historical Background

The *International Conferences of American States* which preceded and led up to the ninth conference at Bogota are shown graphically in Figure 1. The member nations of the Organization and the locations of the international conferences are shown in Figure 2.

Simon Bolivar, South American patriot and liberator, first conceived the idea of the inter-American system in 1815. A "prophetic letter" written by Bolivar while he was in exile in Jamaica expressed his wish for an international congress of representatives of the American states for the purpose of considering their interests in peace and in war. In response to invitations sent out by Bolivar in 1824, Colombia, Peru, Mexico, Central America, and the United States sent delegates to the "Congress of Panama" in 1826.

Henry Clay had championed the cause of the South American colonies in their struggle for independence and it was therefore a great disappointment to him that the United States delegates to the Congress of Panama did not arrive until after the conference had terminated. President Monroe in 1823 had announced the policy of the United States toward the intervention of European states in the colonization of the American continents, but the application of the policy and its intent still needed clarification by the Congress of the United States before the

Formally created at the Bogota conference, the Organization of American States legalizes a Pan American system which has maintained good will and cooperation in the Western Hemisphere for sixty years

delegates could be dispatched to the Panama Congress. The resultant debates in Congress on this question were responsible for the delay of the United States delegates. All the other delegates attended the conference and agreed to a treaty of perpetual union, with a provision in the treaty for an army of 60,000 men to defend the interests of the union. The treaty was never ratified by all the states. Therefore, it was ineffectual.

During the 63 years that followed, the

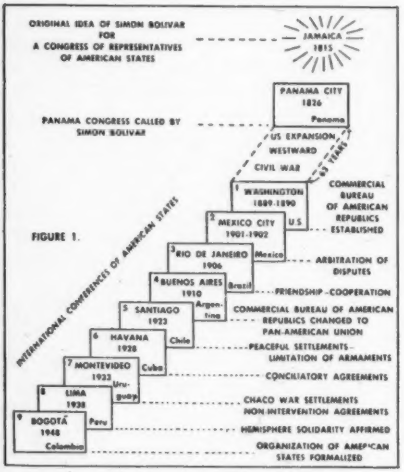

ORIGINAL IDEA OF SIMON BOLIVAR FOR A CONGRESS OF REPRESENTATIVES OF AMERICAN STATES
JAMAICA 1815
PANAMA CITY 1826 Panama
PANAMA CONGRESS CALLED BY SIMON BOLIVAR
US EXPANSION, WESTWARD
CIVIL WAR
TEXAS
1 WASHINGTON 1889-1890
COMMERCIAL BUREAU OF AMERICAN REPUBLICS ESTABLISHED
2 MEXICO CITY 1901-1902 U.S.
3 RIO DE JANEIRO 1906 Mexico
ARBITRATION OF DISPUTES
4 BUENOS AIRES 1910 Brazil
FRIENDSHIP - COOPERATION
5 SANTIAGO 1923 Argentina
COMMERCIAL BUREAU OF AMERICAN REPUBLICS CHANGED TO PAN-AMERICAN UNION
6 HAVANA 1928 Chile
PEACEFUL SETTLEMENTS - LIMITATION OF ARMAMENTS
7 MONTEVIDEO 1933 Cuba
CONCILIATORY AGREEMENTS
8 LIMA 1938 Uruguay
CHACO WAR SETTLEMENTS NON-INTERVENTION AGREEMENTS
9 BOGOTÁ 1948 Peru
HEMISPHERE SOLIDARITY AFFIRMED
Colombia
ORGANIZATION OF AMERICAN STATES FORMALIZED
INTERNATIONAL CONFERENCES OF AMERICAN STATES

FIGURE 1.

Panama Congress, the interest of the United States in the Latin American countries was overshadowed by more dramatic historical episodes at home leading up to and including the Civil War (1861-1865).

Beginning about 1880, James G. Blaine, who was a great admirer of Henry Clay and Secretary of State under President Harrison (1888-1892), succeeded in arousing anew the interests of the United States in the Latin American countries. The United States had just weathered the reconstruction period following the Civil War and had begun to show new interest in trade with Latin America.

The initiative and efforts of Secretary of State Blaine in an attempt to restore this trade were primarily responsible for the calling of the first International Conference in Washington in 1889.

This first conference had as its purpose the promotion of continental peace, agreements on customs and trade, and the formulation of a plan of arbitration in the settlement of disputes. Its most important accomplishment was the establishment of the *Commercial Bureau of American Republics*, later changed at the fourth conference in 1910 to the *Pan American Union.*

The international conferences have continued to the present date, with the ninth and most recent conference at Bogota in April 1948 (Figure 1). In general, the conferences have followed the purposes and aims established at the first conference in 1889. Although the complete accord of all the states has not always been obtained, the system has resulted in a remarkable degree of cooperation and understanding among the member states.

Types of Conferences

It is important to note at this time that the nine International Conferences outlined on Figure 1 represent only the over-all, general, policy-making meetings of the main body of the system. During the same period, there were hundreds of *technical* and *special* conferences held in addition to the International Conferences. The special conferences were interim meetings of the International Conferences to settle technical or emergency problems arising between scheduled meetings of the entire body. The technical conferences consisted of meetings of experts called together to work out the details of agreements arrived at in the form of broad policy at the general conferences.

Still another type of conference was

added at the Lima Conference in 1938, when the *Meetings of Consultation of the Ministers of Foreign Affairs* was added. The purpose of this body was to enable the member nations to consult and reach prompt agreement on matters of mutual concern regarding threats to hemispheric peace and security. The first meeting of this body was held in Panama in October 1939 to consider problems arising from the outbreak of war in Europe. Such matters as continental solidarity and economic cooperation were again reaffirmed at this Conference but most important of all was the "Declaration of Panama." This declaration stated that American waters should be free from hostile acts by any non-American nation. It also defined "American waters" as a 300-mile strip looping southward completely around the Americas from the Canadian border extended on the east to a similar extension of the border on the west. This zone was later redefined in the Treaty of Reciprocal Assistance, signed at Rio de Janeiro in 1947. The new boundaries are more extensive and are delineated by geographical points instead of fixed distances. All of the American continents from the North Pole to the South Pole are included in the new boundaries.

A second meeting of the Foreign Ministers was held in Havana in 1940 in which an agreement was reached that an act of aggression against an American State by a non-American state would be considered an Act of Aggression against all the member states of the Pan American Union. A third meeting was held in Rio de Janeiro in 1942 for the purpose of working out the plans for cooperation during the war.

Relationship with the United Nations

A special conference of the inter-American states was held in Mexico City in February 1945 to consider "Problems of War and Peace." The delegates at this conference envisaged the integration of the Pan American Union into the United Nations, which was then contemplated to be organized at the San Francisco Conference in April 1945. They were cognizant of the contents of the Dumbarton-Oaks proposals which formed the first draft of the United Nations Charter and were therefore better able to harmonize the proposals of the conference with those of the projected world conference in San Francisco.

The Act of Chapultepec was a major accomplishment of the special conference.

FIGURE 2.

This Act, regarded generally as the outstanding achievement of the conference, embodies the principles by which the American states have agreed to abide in order to assure the peace and security of the Western Hemisphere.

Another major accomplishment of the conference concerned the reorganization of the Pan American Union into a stronger system. Proposals for the "Reorganization, Consolidation, and Strengthening of the Inter-American System" were drawn up in the form of a resolution, and the Govern-

ing Board of the Pan American Union was authorized to prepare a draft charter for consideration by the Ninth International Conference. A clause in the resolution states the intent of the inter-American system to maintain the closest relations with the projected United Nations organization and to assume appropriate responsibilities in harmony with the principles and purposes of the world organization.

At the San Francisco Conference, all

Simon Bolivar, who conceived the inter-American system in 1815.

21 members of the Pan American Union were represented among the total of 50 nations attending. The American states were justly proud of, and had great confidence in, the ideals and principles of the inter-American system. For this reason, they were particularly interested in the adoption of Articles 51 and 52 in the United Nations Charter. These articles allow individual or collective measures for self-defense and permit regional arrangements under the authority of the United Nations. The Organization of American states has now become the first regional arrangement under the authority of these articles.

The Organization

The organization established at the Bogota conference is shown in Figure 3. The *Inter-American Conference* remains as the general policy body and is the supreme organ of the system. It meets every five years to consider matters relating to friendly relations among the American States. All member states are represented in the conference and all have equal votes.

The Council of the Organization, which has its seat at the Pan American Union in Washington, is next in importance in the system. It is composed of representatives of each member state, with ambassadorial rank. It is a general coordinating agency of the functions of the other organs and promotes collaboration of the organization with the United Nations. It takes cognizance of any matter reported to it by the Conference of Foreign Ministers and also serves provisionally as an organ of consultation when an act of aggression occurs. It elects the Secretary General and the Assistant Secretary General who is also the Secretary of the Council. It is assisted in its functions by the subordinate technical organs shown on each side of the Pan American Union in Figure 3.

The *Pan American Union* has now become the permanent General Secretariat, or the administrative establishment, for the entire system. Its home remains, as was formerly the case, in the Pan American Union building in Washington, D. C. As shown in Figure 3, it consists of five departments which it uses to carry on the administrative functions of the entire system. It has the responsibility of furthering, through the use of its five departments, the functions of the three subordinate organs of the Council, and assists

the other bodies of the system in their activities. It is the official custodian of the records, documents, and archives of the conferences. The Secretary General participates in all the meetings of the Inter-American Conference, the Council, and the subordinate organs of the Council.

The *Specialized Conferences* relieve the Inter-American Conference of many of its burdens on matters of a technical nature. The *Specialized Organizations*, likewise, perform specialized technical functions pertaining to matters of mutual interest

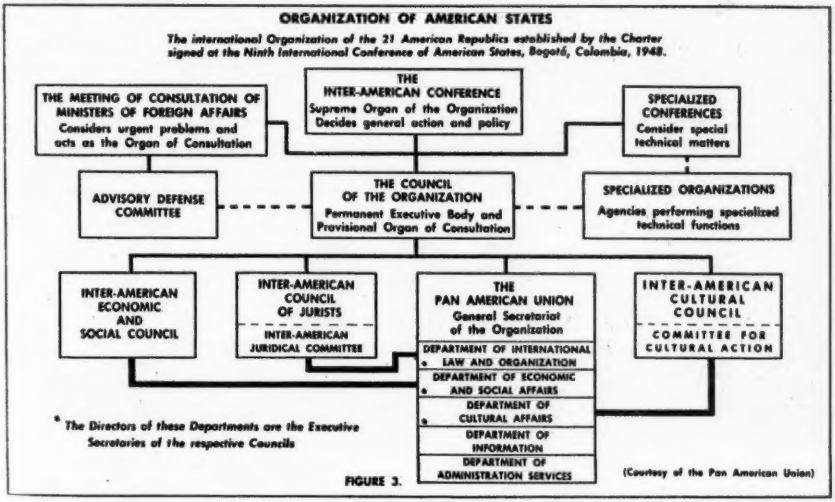

ORGANIZATION OF AMERICAN STATES
The international Organization of the 21 American Republics established by the Charter signed at the Ninth International Conference of American States, Bogotá, Colombia, 1948.
THE MEETING OF CONSULTATION OF MINISTERS OF FOREIGN AFFAIRS
Considers urgent problems and acts as the Organ of Consultation
THE INTER-AMERICAN CONFERENCE
Supreme Organ of the Organization
Decides general action and policy
SPECIALIZED CONFERENCES
Consider special technical matters
ADVISORY DEFENSE COMMITTEE
THE COUNCIL OF THE ORGANIZATION
Permanent Executive Body and Provisional Organ of Consultation
SPECIALIZED ORGANIZATIONS
Agencies performing specialized technical functions
INTER-AMERICAN ECONOMIC AND SOCIAL COUNCIL
INTER-AMERICAN COUNCIL OF JURISTS
INTER-AMERICAN JURIDICAL COMMITTEE
THE PAN AMERICAN UNION
General Secretariat of the Organization
DEPARTMENT OF INTERNATIONAL LAW AND ORGANIZATION *
DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS *
DEPARTMENT OF CULTURAL AFFAIRS *
DEPARTMENT OF INFORMATION
DEPARTMENT OF ADMINISTRATION SERVICES
INTER-AMERICAN CULTURAL COUNCIL
COMMITTEE FOR CULTURAL ACTION
* The Directors of these Departments are the Executive Secretaries of the respective Councils

FIGURE 3. (Courtesy of the Pan American Union)

to the member states and are established by multilateral agreement of the states.

The *Consultation of Ministers of Foreign Affairs* has been retained in the new organization to consider urgent problems of common interest to the states and to serve as an organ of consultation.

An Advisory Defense Committee was also established to advise and assist the organs of consultation in problems of military cooperation and in the application of existing treaties on collective security. By authority of the Charter of the organization, it is composed of the highest military authorities of the American states participating in a meeting of Consultation of Ministers of Foreign Affairs.

Inter-American Defense Board

Though not an organic part of the Organization of American States, it was decided at Bogota that the Inter-American Defense Board, which had resulted from recommendations made at a meeting of consultation of the Ministers of Foreign Affairs in 1942, should continue as an autonomous agency under the auspices of the organization. Its function is to prepare collective defensive measures against aggression until such time as the American states should decide to terminate its work. This Board had its inaugural meeting on 30 March 1942 in Washington. It consists of military and naval technicians from each of the 21 American Republics. The Board was originally designed, at the height of World War II, to provide military specialists to study and recommend to the American states the necessary

measures to insure the defense of the Western Hemisphere.

The Board has served to bring together the military leaders of the American continents and has provided the basis for mutual understanding and cooperative action in the attainment of the common goal of hemispheric defense. The actions and recommendations of the board are drawn up in the form of resolutions and then forwarded to the participating countries for their adoption. The resolutions particularly concerned with hemispheric defense include:

1. Standardization of the war matériel of the armed forces held available for combined use.

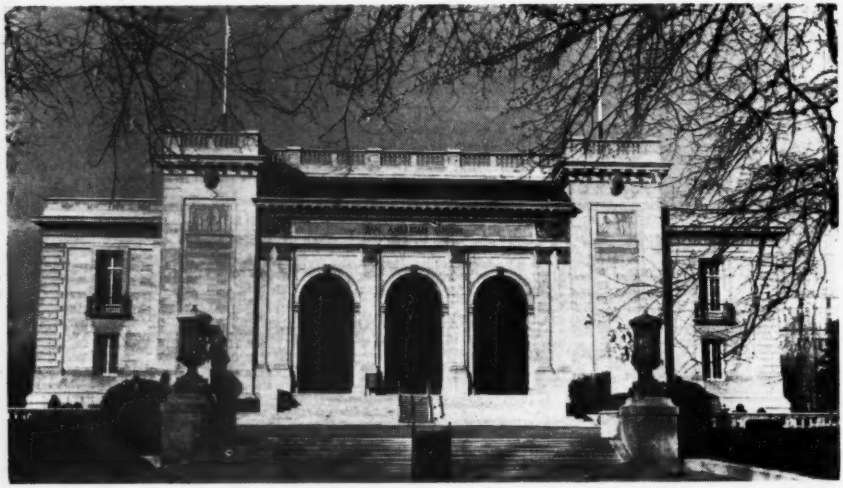
2. Standardization of the organization and training of the combined forces along United States lines.

3. Teaching of hemispheric languages in military schools.

The board has also expanded its activities into the strategic concepts of hemispheric defense to include such studies as industrial mobilization, manpower requirements, and transportation.

The Charter

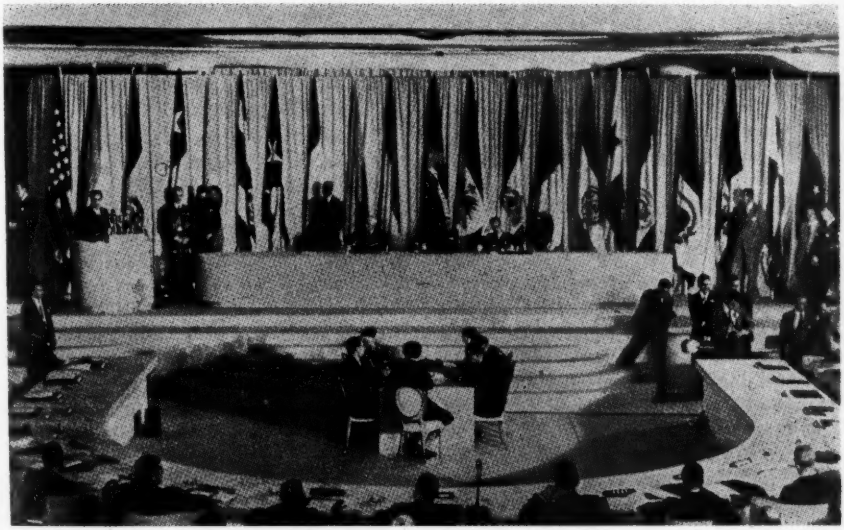
The purpose and aims of the Organization of American States are clearly stated in the charter. It is the avowed purpose of the member nations to join together in concerted effort to achieve an order of peace and justice; to promote solidarity; and to defend the sovereignty, territorial integrity, and independence of the member states. The Charter particularly emphasizes two points: 1. That the organization is a regional arrangement under United Nations authority, and 2. That the member states maintain their individual integrity and sovereignty.



The Pan American Union building in Washington, D. C., is the headquarters of the inter-American system.—Photo by Frances Adelhardt, courtesy Pan American Union.

The aims of the Organization are:

1. To strengthen the peace and security of the continent.



Above, the opening session of the Inter-American Conference for Maintenance of Continental Peace and Security, Rio de Janeiro, in 1947. Below, the opening session of the ninth International Conference of American States at Bogotá in 1948, where the Organization of American States was formed.—Pan American Union photos.

2. To prevent possible causes of difficulties and to insure pacific settlement of disputes among the member states.

3. To organize "solidarity action" of the member states in case of aggression.

4. To provide the solution of all economic, political, and juridical problems among the member states.

5. To promote, by cooperative action, mutual economic, social, and cultural development.

Articles 24 and 25 of the Charter provide a definite connecting link between the Charter and the numerous treaties and agreements reached at previous meetings dealing with hemispheric defense. Article 24 states that every act of aggression against an American state shall be considered an act of aggression by the other American states. Article 25 goes still further in providing that in case the territorial integrity, sovereignty, or political independence of an American state is affected by an armed attack or other act of aggression, the American states shall apply the measures and procedures established in the special treaties on the subject.

The Treaty of Reciprocal Assistance, signed at Rio de Janeiro, 15 August-2 September 1947, best illustrates the importance of Article 25 in connection with the application of treaties. Under this treaty, the signatory states are bound to abide by a two-thirds majority vote of the members. Questions involving the use of armed forces are also settled by a two-thirds majority vote of the members, the only exception being that no state is compelled to use its own armed forces unless it so desires. Even so, the force of the agreement is much stronger than the rules by which such action may be taken by the Security Council of the United Nations. (In the United Nations Security Council, the unanimous vote of the representatives of all Big Five nations, plus the vote of two of the six non-permanent members of the Security Council, is required before armed force may be used to quell aggression.)

Settlement of disputes by peaceful means is the keynote of the security measures provided in the Charter. A graduated scheme of sanctions leading up to and including the use of armed force to repel aggression is prescribed along the same lines as those provided in the Charter of the United Nations. It is the intent of the Charter to supplement and support all the provisions of the United Nations Charter and all 21 members of the Organization of American States are also members of the United Nations.

Summary

The Organization of American States is a continuation of the 60 year-old Pan American Union under a charter system which binds the organs of the system into a closer knit organization. It is a regional arrangement under the authority of Articles 51 and 52 of the Charter of the United Nations and in no way impairs the rights and obligations of the member states in the United Nations.

The system upholds the sovereignty, territorial integrity, and independence of the member states and aims through solidarity of action to strengthen the peace and security of the American continents. The organization has agreed to promote the mutual interests of the member states through cooperation and to settle disputes by peaceful means. In case peaceful means fail in the settlement of disputes, or in case of aggression from within or without, the member states have bound themselves to participate in collective security measures in order to insure or to restore the peace and security of the American continents.

Logistics vs. Tactics

The 24th Infantry Division at Tanahmerah Bay, Dutch New Guinea

Captain Robert R. Smith, *Infantry*
Historical Division, Department of the Army Special Staff

WHILE it is a truism that logistics affect every phase of combat operations, it is seldom that a vivid picture of the inter-relation between supply and tactics can be drawn. By fortunate circumstance, the solutions to major logistic problems faced by I Corps, especially its 24th Infantry Division, in the Hollandia area of Dutch New Guinea during April 1944, are well recorded. The available evidence illustrates how a division staff prepared for the supply of troops over difficult terrain. In addition, the records show how corps and division staff decisions promoted rapid attainment of important tactical objectives despite unexpected logistic problems.

Terrain and the Tactical Plan

The coastline in the Hollandia area of Dutch New Guinea is broken by Humboldt and Tanahmerah Bays which lie about 25 miles apart. Dominating the terrain between the two are the Cyclops Mountains. This range, which rises to a height of over 7,000 feet, drops sharply to the Pacific on its northern side. South of the mountains lies Lake Sentani, an irregularly crescent-shaped body of fresh water about 15½ miles long. On the northern shore of the lake, between it and the Cyclops, is a large plain well-suited to development of airdromes. The Japanese had begun construction of three fields on this plain late in 1943. The seizure of these fields was the objective of an amphibious operation undertaken by Allied forces of the Southwest Pacific Area in April 1944.

There are two approaches to the Lake Sentani Plain from the sea. One begins on the west at Tanahmerah Bay and the other at Humboldt Bay on the east. Both routes go over steep hills and through many defiles. Beaches at the start of the approaches are narrow, backed by tangled mangrove swamps, and easily defensible from hills to their rear and flanks. Measured by standards of jungle warfare, the distances from the beaches to the center of the inland plain are long, being 18 miles from Humboldt Bay and about 15 from Tanahmerah Bay.

Two reinforced regiments of the then untried 24th Division, commanded by Major General Frederick A. Irving, were to land at Tanahmerah Bay at 0700 on 22 April. Simultaneously, two reinforced regiments of Major General Horace H. Fuller's veteran 41st Division were to go ashore at Humboldt Bay. Coordinating the operations of the two divisions was I Corps,

Despite many serious logistic problems, the 24th Infantry Division was able to attain its tactical objectives in the Hollandia area of New Guinea by the rapid improvisation of an unusual supply system

commanded by Lieutenant General Robert L. Eichelberger.

After landing, the divisions were to advance inland in a pincers movement designed for the quick seizure of the air fields. The plan called for the principal offensive effort to be made through Tanahmerah Bay by the 24th Division. I Corps Reserve (the 34th Infantry of the 24th Division), Corps Headquarters, and many service units were also to land at Tanahmerah Bay.

The 24th Division's landing points were designated Red Beaches Nos. 1 and 2. The division was to make its main thrust over Red Beach No. 2, which was situated on the east-central shore of Tanahmerah Bay. This beach ran north and south about 800 yards, had clear approaches from the sea, and was steeply inclined. It was known to be narrow and backed by a swamp, the nature of which could not be ascertained prior to the landing.

Red Beach No. 1 was located at the southern end of Dépraré Bay, a southeastern arm of Tanahmerah Bay. This beach was fronted by a coral reef, the characteristics of which were unknown before D-day. The beach opened on a small plain at the native village of Dépraré where the road to the air fields began. Little was known about this road, but it was believed extensively used by the Japanese, passable for American jeeps, and subject to rapid improvement. Another road, apparently running through two miles of heavily forested hills, was thought to connect Red Beach No. 1 with Red Beach No. 2.

The Landing

The ships transporting the 24th Division and other I Corps units arrived at Tanahmerah Bay about 0500 on 22 April. The division assault troops breakfasted aboard ship and by 0535 had completed loading into landing craft. Movement to Red Beach No. 2 was unopposed and tactical surprise was complete. Two battalions of the 19th Infantry landed on the north sector of the beach, while one battalion remained afloat in division reserve. Two battalions of the 21st Infantry secured the southern half of the beach. One rifle company of the 3d Battalion, 21st Infantry, was immediately sent beyond the southern flank to look for the trail to Red Beach No. 1.

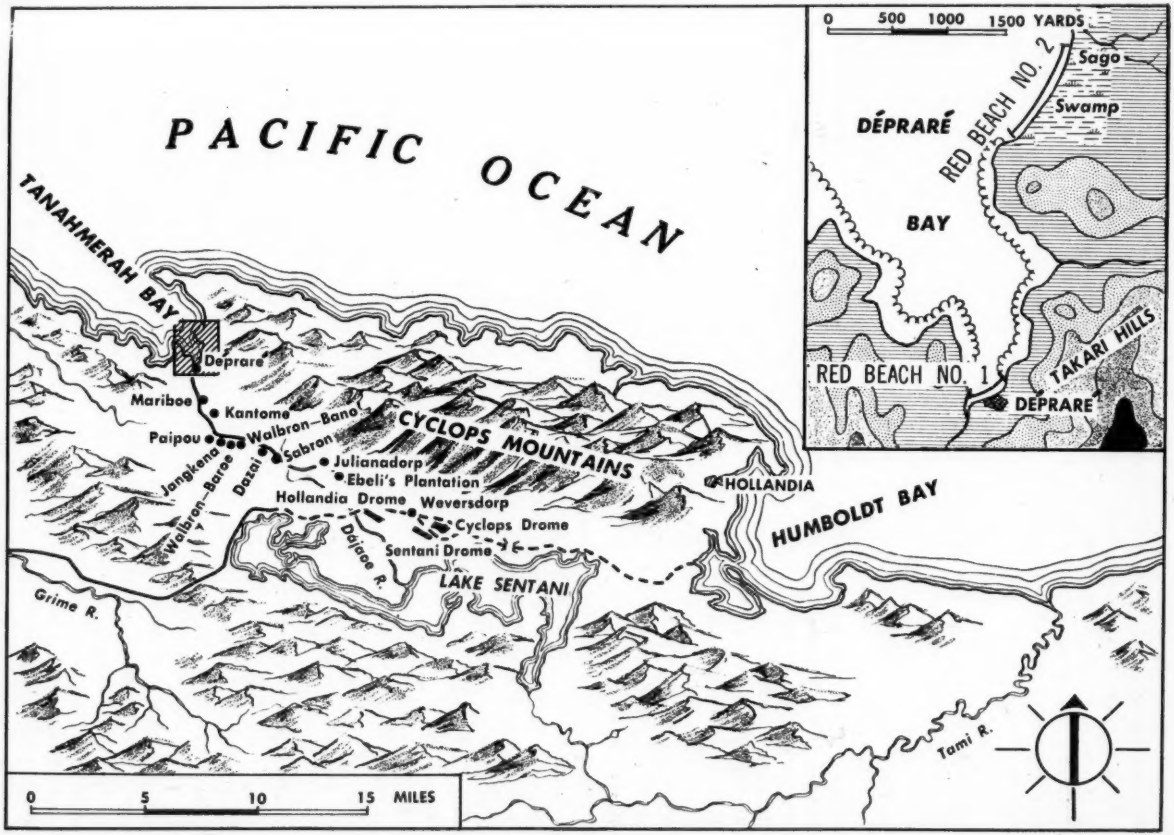
Meanwhile, Company A of the 21st Infantry, aboard Buffaloes, had moved directly into Dépraré Bay from the transports. Flank Buffaloes of the assault wave had to cross the coral reef, while the center vehicles had to proceed two abreast through a narrow, shallow channel in the barrier. This channel was found to be passable for small craft only during two hours at high tide. Company A secured Red Beach No. 1 with ease. The rest of the 1st Battalion followed ashore quickly.

The beach contained a maze of trails which crossed each other, recrossed, and wandered off toward all points of the compass. The battalion therefore had some difficulty finding the beginning of the main road inland. After an hour's search, this important trail was located about 500 yards south of Dépraré. While the search continued, the beachhead was expanded and a few potential supply and troop dispersal areas were located.

Back at Red Beach No. 2, which had been intended as the principal landing area for both troops and supplies, operations were not proceeding according to plan. General Irving, when he assumed command ashore, found the terrain far worse than he or members of his staff had anticipated. A major change in landing plans, not only for the 24th Division but also for the rest of I Corps, was indicated.

The Change in Plans

Contrary to estimates, which had been based primarily on interpretation of aerial photographs, Red Beach No. 2 was only 30 yards deep. The backing swamp,


PACIFIC OCEAN
TANAHMERAH BAY
Deprare
Mariboe
Kantome
Paipou
Walbron–Bano
Jangkena
Sabron
Dataai
Julianadorp
Ebeli's Plantation
CYCLOPS MOUNTAINS
Hollandia Drome
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HOLLANDIA
HUMBOLDT BAY
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0 5 10 15 MILES
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RED BEACH NO. 2
Sago
Swamp
DÉPRARÉ
BAY
RED BEACH NO. 1
TAKARI HILLS
DEPRARE

which proved impassable for everything except individual infantrymen bearing only small arms, contained more water and was wider than had been expected. Neither time nor men and equipment were available to adapt Red Beach No. 2 to the role originally planned for it.

A tiny dispersal area, rendered inaccessable by a small stream and an arm of the swamp, was discovered at the northern end of the beach. Ultimately, a road was constructed into this space and artillery was emplaced there to fire on inland targets. But the fill used to build the road stopped the flow of the stream which had drained the swamp. To prevent a rise in the swamp water level, a drainage canal was cut through the center of the beach. This lowered the water level a little and created an additional small dry area behind the beach. This drainage did not provide sufficient dry land for dispersal of supplies.

Other obstacles to the execution of original plans were soon discovered. First, it proved unfeasible to carry out a proposal to drive roads 500 yards inland on both flanks of the beach to dry areas behind the swamp. Then it was discovered that there was no road connecting Red Beach No. 2 to Red Beach No. 1. This was an especially serious circumstance, because plans had called for moving almost all troops and supplies overland from Red Beach No. 2 to the entrance to the Dépraré-Lake Sentani road.

Construction of a road between the two beaches soon proved impracticable, and after a day and a half of hard work the project was discontinued. The small completed stretch did serve some useful purpose. On D-day two batteries of 105-mm howitzers were dragged down the road to a cramped position on a little ridge whence they could deliver some fire support for troops advancing inland. The direction of this fire was limited by nearby hills. The completed stretch of road also provided a dispersal area for a few of the many vehicles unloaded at Red Beach No. 2.

The ships bearing the supplies and equipment of the 24th Division's two assault regiments were unloaded on Red Beach No. 2 by 1900 on D-day. By that time, the beach was almost solidly covered with supplies, vehicles, and gun emplacements. It was obvious that supplies and troops still afloat could not possibly be squeezed onto the beach. Unless Red Beach No. 1 provided materially larger dispersal space, later convoys to Tanahmerah Bay would have to be held at eastern New Guinea ports or diverted to other landing areas.

During the preparations for the operation, an assault on Red Beach No. 1 had been deleted from the landing plan by agreement between I Corps and the naval command. But the 24th Division staff, wishing to provide for every contingency, recommended to General Irving that a landing on Red Beach No. 1 remain a part of the plan. The general made personal pleas to I Corps and the amphibious commander and succeeded in having the landing reinstated in the plan. The results of this decision soon became apparent.

Behind Red Beach No. 1 were found some additional dry, flat areas. The reef hampered access to the beach, but the 24th Division partially solved this problem by shuttling supplies from Red Beach No. 2. Shallow-draft boats carried the supplies to the entrance to Dépraré Bay. There, matériel was transshipped to Buffaloes, which served as ferries to Dépraré. At high tide, two of the boats could beach at Dépraré at one time. Ultimately, access to Dépraré was improved when naval demolition personnel blasted a wider and deeper channel through the coral barrier reef.

The shuttle continued throughout the night of 22-23 April. Some of the congestion on Red Beach No. 2 was thus relieved

and, by dint of almost superhuman effort, all the cargo aboard the D plus 1 convoy was squeezed onto the beach. By noon, however, it had become evident that the supplies and troops aboard ships scheduled for D plus 2 could not be unloaded at Tanahmerah Bay.

Meanwhile, advance elements of the division had pushed far inland toward the air fields over the Dépraré-Lake Sentani road. Contrary to expectations, this road was found to be ungraded and extremely narrow. It was a track which wound in a series of hairpin turns over the Takari Hills east of Dépraré. It hung precariously along the sides of hills and had some slopes of 60 degrees. Heavy construction, destined to be impeded by many landslides, would be necessary before this trail could be used as planned. Until it was improved, only a small number of troops could be supplied over the track, and all supplies would have to be hand-carried forward of Dépraré.

To I Corps, the logistic difficulties of supporting a large-scale drive inland over the Dépraré-Lake Sentani road far outweighed the tactical advantages. Moreover, the 41st Division was meeting with unexpected success in its drive inland from Humboldt Bay. In fact, the shores of that bay seemed better suited to troop and supply dispersal than those at Tanahmerah Bay. The Corps G-3 Section, with the support of the G-4 Section, therefore recommended that a sweeping change in plans be made. General Eichelberger accepted these recommendations. He decided to make the Humboldt Bay area the principal corps landing point and to change the emphasis of the attack to the 41st Division's drive inland. About noon on D plus 1, he directed that the D plus 2 convoy to Tanahmerah Bay be diverted to Humboldt Bay. Corps Headquarters, Corps Reserve, and miscellaneous service units, all of which were still awaiting a chance to unload at Tanahmerah Bay, were also ordered to the Humboldt Bay beaches. The 24th Division would have to support its drive inland with only the supplies and equipment unloaded at Tanahmerah Bay through D plus 1.

Movement Inland

The 1st Battalion, 21st Infantry, commanded by Lieutenant Colonel Thomas E. Clifford, Jr., had started up the Dépraré-Lake Sentani trail at 0837 on D-day. At any one of numerous hairpin turns and defiles over the first two or three miles of the track, a squad of riflemen could have delayed a division. Surprisingly, no opposition was encountered, and prepared enemy positions at important points were found unoccupied. Some of the Japanese defenses had not been completed. The battalion was therefore able to advance as rapidly as terrain conditions and security measures permitted.

The column entered the village of Mariboe without opposition at 1047. Over three miles by trail inland from Dépraré, Mariboe was the division's first inland objective. Colonel Clifford now stopped the advance. Since radio communication with the beachhead had been lost, he sent messengers back over the trail to report progress. At the same time, patrols were sent toward Kantomé, nearly two miles east of Mariboe. These patrols reported few signs of enemy activity. Without waiting to re-establish contact with higher headquarters, Colonel Clifford ordered the advance resumed. Encountering little opposition, the battalion reached Kantomé about noon.

From Kantomé, patrols pushed 10 miles east through Paipou, Jangkena, Walbron—Baroe, and Walbron—Bano, to Dazai, the division's intermediate objective. The patrols met no resistance, although signs of recent enemy activity abounded along the main track. Colonel Clifford then sent

the main body on to Jangkena, which lies about eight miles by trail inland from Dépraré. At Jangkena, the advance was again halted because night was approaching and because communications were still uncertain.

Colonel Clifford knew little concerning the situation to the rear. Ahead, an estimated 10,000 Japanese were thought to be concentrated around the air fields. Jangkena is on flat, swampy ground not easily defensible. If the battalion pushed on to Dazai, also on flat ground, Japanese troops might outflank the unit and cut its line of communications. Colonel Clifford therefore decided to pull his battalion back to Kantomé for the night, leaving only outposts in front of that village. Kantomé is located near the eastern edge of the jungled Takari Hills, a formidable obstacle to flanking maneuvers.

The soundness of this decision was demonstrated about midnight when a small Japanese force attacked the battalion from the left rear. The jungled hills prevented further enemy movement and the Japanese force was not strong enough to penetrate the battalion perimeter. After keeping Colonel Clifford's men awake most of the night, the Japanese withdrew at dawn on the 23d.

About the time that the 1st Battalion was withdrawing to Kantomé, radio communications to Red Beach No. 1 were reestablished. It was learned that the 3d Battalion, 21st Infantry, had moved from Red Beach No. 2 to Dépraré—a move made possible by the absence of Japanese in the former area. By nightfall, the 3d Battalion had crossed the Takari Hills and had set up a defensive perimeter a few yards west of Mariboe. The remainder of the 21st Infantry also moved to Red Beach No. 1 on D-day, responsibility for the defense of Red Beach No. 2 passing to the 19th Infantry. Colonel Charles B. Lyman, commanding the 21st Infantry, moved his command post to Dépraré about noon. By the morning of the next day, communications from the command post to all parts of the regiment had been established. The regiment was ready to exploit the initial success of the 1st Battalion.

Delayed by Logistic Problems

The 1st Battalion began moving eastward from Kantomé at 0700 on the 23d and by 1045 had re-entered Jangkena. Shortly after 1200, the battalion reached Dazai, farthest limit of patrol advance the previous day, and then pushed on to Sabron, 1,000 yards to the east. About 1445, after lunch and a rest, the battalion moved cautiously out of Sabron. About 1,500 yards beyond Sabron a small stream crossed the main track. This crossing had been scouted by patrols earlier in the day, and they had found there the first signs of strong, organized defenses.

Advance platoons crossed the creek without difficulty but were forced to withdraw upon finding themselves in a Japanese ambush. Colonel Clifford requested air support. Carrier-based planes of a supporting naval task force strafed the enemy positions. The 1st Battalion's 81-mm mortars and HMG's laid a barrage on the enemy defenses. But this fire did not dislodge the Japanese and efforts to outflank the position proved futile. After a fire fight at the crossing had lasted almost to dusk, Colonel Clifford moved his battalion back to Sabron for the night.

During the night, American artillery fired on the enemy position, and the Japanese replied with mortar, grenade, and small arms fire directed against the 1st Battalion. An enemy field piece, believed to be a dual-purpose 90-mm gun, also fired on the battalion. The enemy harassing fire continued almost to dawn, and again the 1st Battalion was kept awake most of the night.

The rest of the regiment was now echeloned along the trail behind the 1st Bat-

talion. The 3d Battalion, which had advanced within 1,000 yards of Dazai, was also harassed by Japanese fire during the night. The 2d Battalion, which had moved up to Mariboe from Dépraré, spent a quiet night. The 1st Battalion's position was not enviable. It was more than 12 miles inland, had only enough rations left for breakfast, and was running low on ammunition. The unit had received no supplies since landing on Red Beach No. 1, and it faced the prospect of hard fighting on the 24th.

Planning by the 24th Division had taken into consideration many of the problems which might be encountered in the Tanahmerah Bay area. The division G-4 Section had made a detailed study which had shown that a regiment could be supplied by hand-carry from Red Beach No. 2 inland as far as Jangkena. When the supply point had been moved to Red Beach No. 1, the G-4 Section calculated that the hand-carry distance could be extended to Dazai. This conclusion was based on the assumption that weather conditions would not make the Dépraré-Lake Sentani road nearly impassable.

But heavy rains had now begun to turn the road into a quagmire. The struggling men could barely carry their own equipment and food, to say nothing of extra supplies for the attacking units. By evening on the 23d, logistic support of the 21st Infantry had become a major problem. This problem was made more serious because the 1st Battalion had advanced beyond Dazai.

When the 2d and 3d Battalions moved inland on the 23d, both carried extra supplies with them. Since these supplies proved inadequate for the 1st Battalion, the division had to increase the number of men assigned to hand-carry. The over-water shuttle system from Red Beach No. 2 to Dépraré was now working smoothly. Few division combat units were needed at Red Beach No. 2 to assist in moving supplies or to defend the area. Therefore, the 2d Battalion, 19th Infantry (initially the division reserve), was moved to Dépraré on D plus 1. The Antitank and Cannon Companies of both the 19th and 21st Infantry Regiments were also sent to Red Beach No. 1 on the same day. All these units were stationed at various points along the trail from Dépraré to Mariboe to speed the flow of supplies inland, apparently by a combination of a shuttle system and forward displacement. However, their best efforts proved inadequate to assure continued support of the 1st Battalion, 21st Infantry. In addition, trail conditions were becoming worse and hand-carrying more difficult. General Irving therefore requested that aircraft (the nearest base for which was almost 500 miles east of Hollandia) drop supplies at Jangkena on 24 April.

General Irving himself reconnoitered the trail forward of Dépraré. After his trip, he realized that continued rapid advance was no longer possible. He also learned that the weather was so threatening that little dependence could be placed on the success of air supply. Accordingly, late in the afternoon of 23 April, he ordered the 21st Infantry to hold at Sabron and Dazai. Elements of the regiment not already at those two villages were to remain echeloned to the rear to facilitate supply movement. Further offensive efforts were to be limited to patrol action until the supply situation could be improved.

Supply Difficulties: 24-25 April

By exhaustive work during the afternoon of 23 April and the following night, rear elements of the 21st Infantry had succeeded in building up a small reserve of rations and ammunition at Dazai. The next morning the 1st Battalion of the 19th Infantry moved to Dépraré from Red Beach No. 2 to augment the number of hand-carrying parties. The Cannon and Antitank Companies of the regiment, carrying

extra supplies, pushed over the Takari Hills to Mariboe and Jangkena, respectively. Colonel Lyman, knowing that there were additional supplies at Dazai and that the number of carrying parties was being increased, ordered his regiment to attack again at 0700 on the 24th. His plan, apparently approved by division, was to keep the 2d Battalion echeloned by companies along the trail west of Dazai to aid supply movement while the 1st and 3d Battalions pushed on toward the air fields.

The two units moved out on schedule, advancing on a wide front to make sure that no Japanese would be by-passed and left to cut the tenuous supply line to Dépraré. Progress was slowed by Japanese fire at the scene of the previous day's ambush and was also delayed as patrols searched the terrain far to both sides of the trail. During the afternoon, the battalions were temporarily halted by enemy machine-gun fire from the left front. By dusk, the 1st Battalion had set up night defenses about 1,700 yards east of Sabron. Beyond this point, they could not be supplied by hand-carrying parties from Dazai. The 3d Battalion pulled back to a position immediately west of Sabron. The advance during the day had been slow. Japanese delaying action, for the only time during the campaign, had been skillfully and tenaciously conducted for the past 36 hours.

During the 24th, most of the 2d Battalion, 19th Infantry, and the Antitank and Cannon Companies of the 21st Infantry, had carried supplies from Dépraré to Mariboe. By dark, a small supply dump had been established at Mariboe. The 1st Battalion, 19th Infantry, had handled supplies on Red Beach No. 1 throughout the day and had also assumed responsibility for the security of the beach. The Cannon Company, 19th Infantry, had moved forward with supplies to Mariboe, and the Antitank Company of the same regiment had reached Jangkena with extra ammunition and rations. The Cannon and Antitank Companies of both regiments had, perforce, left their organic weapons and transportation behind them and were acting as service troops. The 2d Battalion, 21st Infantry, was spread from Dazai to Mariboe, its companies almost entirely engaged in service activities.

Despite the efforts of all these units, the supply of rations, ammunition, and medical equipment for the two advance battalions was only little increased during the 24th. Steady rain, which had forced cancellation of the scheduled air drop, had turned the track into a sea of mud. There was little hope for quick improvement in the situation.

General Irving, however, felt sure that conditions would improve on the 25th. He requested another air drop which, in order to get the supplies farther forward, he wanted made at Dazai. On the basis of this request, because the number of carrying parties along the main road had been increased, and since some extra supplies had been moved to Dazai, the division commander ordered the advance to be continued.

The 25th dawned heavily overcast and rain threatened, auguring ill for the proposed air drop. Nevertheless, patrols of the 1st Battalion, 21st Infantry, moved out of their night positions at 0500. The plan of movement was similar to that employed on the 24th: advance along a wide front to sweep the enemy from both sides of the main trail. After an artillery bombardment on known and suspected enemy positions, the main bodies of the 1st and 3d Battalions followed the advance patrols. Only scattered small arms fire slowed progress. About 1115, the advance stopped temporarily while demolition teams destroyed two recently deserted enemy armored vehicles.

The first objectives, wooded hills about 3,000 yards east of Sabron, were cleared before noon. A few moments later the battalions reached the Dajaoe River. An

enemy delaying position at the river crossing was quickly outflanked and by mid-afternoon both battalions had forced the river and were approaching Julianadorp. Enemy automatic weapons fire was received from positions north of the village. Patrols found a Japanese antiaircraft gun emplacement protected by riflemen and machine gunners. This position was soon neutralized by mortar fire and the two battalions resumed their advance about 1530 hours.

Progress was slow during the rest of the afternoon. Japanese patrols, which threatened the line of communications, became active north of the road. In addition, the forward battalions were forced to advance in column because heavily jungled terrain on both sides of the road made it impracticable for large bodies of troops to move overland. A series of patrol actions cleared the Japanese from the left flank. This was accomplished by 1700, at which time Colonel Lyman decided to halt for the night. The two battalions established defenses near Julianadorp.

The supply situation in the forward area was little improved. It had rained steadily all day. The air drop had again failed and the Dépraré-Lake Sentani road had become practically impassable. The 2d Battalion, 21st Infantry, had moved forward through Sabron to Dazai, laboriously hand-carrying supplies as it struggled eastward in the rain and mud. Small supply dumps were built up at both villages, but the battalion's displacement left a large gap in the carrying line. West of Dazai, the next sizeable carrying party was the Antitank Company, 19th Infantry, at Paipou. Behind that unit was the Cannon Company, 19th Infantry, at Mariboe. General Irving ordered both companies to move at dawn on the 26th to Dazai, carrying with them all possible supplies.

These movements would leave the trail from Dazai to Mariboe bare of carrying parties, thus disrupting the supply relay system. General Irving therefore ordered the 1st Battalion, 19th Infantry, to move to Jangkena, and a company of the 2d Battalion, 19th Infantry, to Mariboe. The remainder of the 2d Battalion, which was to be assisted by miscellaneous artillery, medical, and quartermaster units, was made responsible for moving supplies from Dépraré to the crest of the Takari Hills. Finally, the Antitank and Cannon Companies of the 21st Infantry were to move from Mariboe to Dazai.

Thus, by evening of 25 April, three infantry battalions, two antitank companies, and two cannon companies were assigned to carrying supplies. These units were supported by elements of the service companies of the 19th and 21st Infantry Regiments, by parts of various engineer and quartermaster organizations, and by volunteer groups from medical and artillery units whose services were not needed for their normal duties. At least 3,500 troops were directly employed in hand-carrying supplies to the two forward battalions.

Since these two battalions were now beyond the range of 105-mm howitzers emplaced in the Red Beach No. 2 area, Colonel Lyman asked that 4.2-inch mortars be sent inland. Because of the condition of the Dépraré-Lake Sentani road, plans were made to move only one mortar. A detachment of the 641st Tank Destroyer Battalion, consisting of two gun crews and the ammunition carriers of an entire mortar platoon, was detailed for the task. The movement of the mortar was given highest priority. At the same time, a single 105-mm howitzer was started over the Takari Hills.

While these steps were being taken to deliver supplies and support weapons to the front, General Irving decided to order the advance continued. It had been impossible to drop supplies from the air on the 25th and even hand-carry had been halted by heavy rain late in the afternoon. The rain flooded many small streams and

parts of the Dépraré-Lake Sentani road were knee deep in water. The forward battalions were low on ammunition and would have to go on half-rations if the supply situation were not quickly improved. But General Irving was optimistic about the weather and felt sure that air supply would be successful. In addition, he had received information which indicated that the Japanese were evacuating the air field area. He therefore felt that continuation of the advance would not be unduly hazardous.

In ordering the advance for the 26th, General Irving was pushing his men far beyond the limit at which they could be supplied by hand-carry. If the air drop should again fail, one of the two forward battalions would probably have to be echeloned back along the trail to augment the carrying parties and the advance would probably have to halt. Should enemy opposition prove stubborn, the forward battalions might have to withdraw, perhaps as far as Dazai, to replenish their rations and ammunition. The division commander was gambling on the success of the air drop and on an absence of enemy opposition.

To the Air Fields

The 1st and 3d Battalions, 21st Infantry, began moving eastward at 0830 on 26 April. Japanese opposition was negligible and the advance was halted only momentarily at Ebeli Plantation about 1130 to clear out an enemy pillbox. Minutes later, the troops reached the outermost dispersal areas of Hollandia Drome, the most westerly of the three Japanese air fields on the north shore of Lake Sentani. The battalions were regrouped and a new attack order was issued. The 1st Battalion was to seize an enemy encampment north of the field. The 3d Battalion was to push to the airdrome, secure it, and advance as far as the edge of a swamp southeast of the field.

By 1350, the 1st Battalion had secured its objective. The 3d Battalion's forward patrols reached the western edge of the main runway about the same time and the eastern end of the field a half an hour later. Before 1530, Colonel Lyman reported to division headquarters that the entire Hollandia Drome area had been secured.

By dark, the 2d Battalion had closed at the air fields. Bombers had been able to drop supplies at Dazai during the day and the 2d Battalion brought forward with it some rations, ammunition, and medical equipment. The supply situation was further improved as the rain stopped and carrying parties found conditions along the trail better. In addition, some wheeled transport was now available at both ends of the Dépraré-Lake Sentani road. Hard work by engineers at Dépraré had made the road passable for jeeps halfway up the first steep slope of the Takari Hills. At Hollandia Drome, the 21st Infantry had captured a few Japanese trucks. These were sent west from the airstrip as far as possible along the main trail, which was in fair condition to a point near Julianadorp. There the supplies dropped from the air during the day, as well as those still being hand-carried from Dépraré, were picked up and taken to the air field area.

As soon as Hollandia Drome was secured, patrols of the 21st Infantry pushed toward Weversdorp, a farm about 2,500 yards beyond the eastern end of the field. At 1645, between Weversdorp and the airdrome, contact was established with the 41st Division, which had been pushing westward from Humboldt Bay and had already seized the other two Japanese fields on the inland plain. All important corps objectives were now assured.

Conclusion

In four days, I Corps had seized its objectives despite major logistic prob-

lems. The fact that the rapid attainment of these objectives was largely based on a drastic change in the original scheme of maneuver demonstrates a commendable flexibility in the corps plan. That the 24th Division was able to play its major share in the execution of these plans was due to careful preparation by the division staff and the rapid improvisation of an unusual yet workable supply system. The cooperation of all arms and services contributed greatly to the success of the 24th Division's drive inland.

The air fields which the 24th Division had helped to secure were to prove invaluable in later operations as the forces of the Southwest Pacific Area moved along the road back to the Philippines. From Hollandia, where an important logistic base was established, a large part of the force which invaded the Philippine Islands in October 1944 set sail.

During ... March (1944) and the early part of April, the occupation of Manus and the adjacent islands was completed. The next move to Hollandia and Aitape on 22 April involved a leapfrog advance westward of more than 400 miles. Since the landings were beyond the effective range of Army fighters, air support was provided by naval carriers. At Hollandia were located three excellent Jap air fields, and Humboldt Bay was suitable as an advanced naval and supply base. The air fields were found to be hard to reach overland, so General MacArthur occupied Aitape and based fighters on the airstrip there. Three main landings were made by troops of the 24th, 32d, and 41st Divisions of Lt. Gen. Robert L. Eichelberger's I Corps, one just east of Aitape, one in Humboldt Bay, and one in Tanahmerah Bay. The Jap was taken by surprise; fewer than 5,000 of his troops were in the entire Hollandia area. By 30 April, air fields there were in our hands, General Krueger's Sixth Army Headquarters moved into Hollandia 6 July 1944; General MacArthur brought his headquarters up from Brisbane on 8 September 1944. On this same date, General Eichelberger was assigned to command the newly activated Eighth Army with Headquarters also at Hollandia.

The Hollandia-Aitape operation cut off more than 50,000 Japanese troops to the eastward. The advance westward was continued in mid-May when elements of the 41st Division made an unopposed landing near Arara. A few days later a regiment of the same division captured the offshore island of Wakde with its airstrip and extended the beachhead on the mainland to include Maffin Bay.

General of the Army George C. Marshall. From the Biennial Report of the Chief of Staff of the United States Army, July 1, 1943 to June 30, 1945.

The Conduct of Learning

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Mission

THE reorganization of the Army's top school, the Command and General Staff College, was described in detail in the September 1948 issue of the MILITARY REVIEW. The announced purpose of this step was to place additional emphasis on the Army's tried and proved method of applicatory instruction. In small informal classes, emphasis is now placed on "student doing." This also permits informal group discussions and each student is called on to present his solutions many times a day.

Students now attend classes which consist of fewer than 40 officers. There are 12 such student groups. Instruction in all 12 groups is conducted concurrently and is approximately the same.

Concept

Contrary to what an orator may believe, it has been proved that a student remembers 10 percent of what he hears, 20 percent of what he sees, but 80 percent of what he *does*. It is the 80 percent figure that the Command and General Staff College is endeavoring to exploit in the new scheme for instruction. Thus, "Methods of Learning" has replaced the term "Methods of Instruction" at Fort Leavenworth.

Preparation of Instruction

The pursuit of learning by students assembled in 12 different classrooms has required major changes in the organization of the academic department of the College. These changes have already been described in the MILITARY REVIEW. The 12 student groups require 12 instructors to conduct these classes concurrently. The 12 instructors are organized into a section, and a section chief is added for supervision. There are five such sections of 13 officers each. They take turns in "going to bat" with the instructional material that has been prepared within their section.

A major revision in the curriculum itself has also affected the preparation of instructional material. In previous years, each of the four schools of the College was allotted a block of time early in the course. During these periods, which averaged about two weeks in length, each school conducted instruction in its staff specialty largely by means of lectures. This was then followed by exercises during which these principles and staff techniques were applied in map situations. Each of the four schools contributed parts to these map exercises. Thus, four instructors were frequently the co-authors of a unit of instruction. Each contributor was a specialist in his field. While the desirability of having specialists prepare and conduct instruction is obvious, this procedure also resulted frequently in poor coordination and integration of the learning material. It was seldom that only one instructor was responsible for an entire exercise.

Division of responsibility has now been eliminated completely. The Director of the Department of Commander and General Staff is now responsible to the Assistant Commandant of the College for the first seven months of the course. This includes all instruction which is not conducted by the other specialized departments of instruction. Assisted by a staff of four officers, he prepares the program of instruction as a whole and directives for each unit of instruction. After approval by the Assistant Commandant, directives are divided among the five section chiefs. They, in turn, issue directives to individual instructors who prepare the required material. For this purpose, sections are further divided into teams of four officers. Each instructor on the team has experience with, and may be a specialist in, one of the four general staff divisions. Thus, the author of instructional material assists his teammates in preparing their material, and in turn receives advice in the preparation of his own. He therefore has readily available assistance in matters in which he is not a specialist, but is none the less completely responsible for the entire unit of instruction.

Authors are now permitted to picture the commander and his general staff in their proper perspective in each situation. The old tendency to over-emphasize the importance of any staff section no longer exists. The author is responsible for all of them. Under this scheme, it is frequently possible to organize five or six students into a general staff and then present the chief of staff with a problem requiring a contribution or solution from each member of his staff. Close coordination and integrated staff action are thus demonstrated instead of being merely discussed.

Remarkably enough, the instructional material now being prepared by these non-specialists is even better than that of previous years. It is integrated and closely coordinated. The chain of responsibility parallels the chain of command from the Commandant of the College to the instructor preparing the material.

Pattern for Learning

A typical pattern for student learning of a particular subject goes somewhat like this:

By home study and reading from an existing text or specially prepared advance sheet, the student learns certain principles and techniques, or becomes acquainted with a military skill. Frequently, this study assignment is closely related to a problem which is presented, the solution of which requires application of the principles or techniques contained in the reading material. In class next morning, a short period is devoted to discussion of matters contained in the study assignment and in the problem solution. A few carefully worded questions by the instructor quickly determine whether the problem and assignment have been read and understood. Then follows a longer period, during which students are again required to *apply* in another realistic map situation the subject matter which they have read.

As each phase of the exercise is completed, designated students present their solutions orally and a group discussion

The organization of the Command and General Staff College course into smaller classes has placed more emphasis on student discussion and participation, with greater effectiveness in student learning

follows. These presentation and discussion periods are a most important and beneficial feature of the learning process which the small student groups make possible. The college solution which then follows is used as an opportunity for further discussion and to emphasize the application of important doctrines and principles which the student should remember. The conduct of learning in these small groups vastly increases the number of student presentations and spontaneous discussions. It has the further major advantage of developing the student's ability to think on his feet.

Uniformity Achieved

But how is uniformity and equal excellence of instruction achieved in all 12 groups? This is essential, since the College is still required to rate students on their academic achievement. The written College solution and a complete discussion sheet for each requirement are important means of insuring uniformity. This written material is reviewed carefully and forms the basis for student learning and instructor discussion. Still another means of insuring that all 12 instructors adhere closely to the same schedule and avoid differences in subject matter or doctrine is the "lesson plan." This is both a timetable and a list of instructional matter that is to be covered by means of questions, answers, illustrations, exercises, and summaries. And finally, section briefings and rehearsals contribute to uniformity and excellence. These sessions are conducted with all 12 instructors in attendance. They usually require approximately twice the scheduled classroom time of the exercise itself. Instructors first study the material from the viewpoint of the student, and then from the viewpoint of the instructor or coach. The author of the material and the section chief insure that all doctrine, technique, and the instructional program are thoroughly understood. Since every participant in a section briefing realizes he will be required to present the subject himself, interest is extremely keen and it is rare that a student in class brings up an important matter which has not been anticipated in the briefing.

Mission and Scope Unchanged

The mission of the College and the scope of instruction remain unchanged. The regular course is of 10 months duration. During the first seven months, infantry, armored, and airborne divisions, amphibious commands, army corps, and field armies march across the students' maps. The students find themselves cast constantly as the commanding general or a general staff officer of these units. They are confronted with numerous problems which arise in combat and are required to solve these problems in the particular job in which they find themselves. For a period of five weeks toward the end of the seven months of common instruction, students operate, on paper, all installations in the communications zone, either as commanders or general staff officers.

The regular course includes 10 weeks of specialization during which each student is required to study in detail the functions of one general staff section at the theater, zone of interior, and Department of the Army level. This instruction is conducted in the Departments of Personnel, Intelligence, Operations and Training, and Logistics. The course ends with two weeks of common instruction under the supervision of the Department of Analysis and Research. The instruction includes a joint airborne-amphibious exercise and an exercise on future warfare.

Report of Progress

The new system of small group instruction has now been in progress since September 1948, and a preliminary report can be made as to its effectiveness. In

considering the present scheme, keep in mind the method which it replaced. Formerly all students were assembled in one huge classroom for nearly all instruction. The past two regular classes numbered approximately 500 each and instruction was conducted by one member of the faculty using a public address system. Student learning was accomplished largely by means of lectures, and student participation could be achieved only in certain periods of applicatory exercises. Even in these exercises, there was little free or spontaneous discussion, and many students attended class for months without answering a question or contributing in any way to a discussion. As may be expected, the entire atmosphere of the small groups is different from that of the larger ones. It is characterized by informality. Guided group discussions have replaced formal lectures which were interspersed with a scattering of formal questions and answers. Students and instructors need no longer address each other over a public address system. This in itself is a major accomplishment in the pursuit of good learning.

An additional poll of students shows an almost unanimous vote in favor of the small group system. Students are bound to learn more. It is true that they work harder, but without realizing it. They are "doing things" and, as a result, the time passes quickly. Instructors are equally enthusiastic for the new scheme. They, as well, are required to work harder. Although they realize this, they also realize the great value to themselves of being required to conduct instruction in the broad field of military operations from the front line infantry battalion to the operation of a base section. Although students learn and retain far more than was previously achieved, the instructors feel that they are deriving even greater benefit. Three years devoted to this duty will surely develop real general staff training. Thus, for both instructors and students, the old adage that "one gets out of anything in the same proportion that he contributes" proves true.

All are in agreement that the term "Methods of Instruction" has been outmoded at Fort Leavenworth and is replaced by "Methods of Learning." Even the term "instructor" may some day be changed to "coach."

America does not need today the biggest Army in the world. And in the event of a future war, it cannot expect to have the biggest Army in the world. While we seek such increases as will partially reduce the disparity in size between our military manpower and that of any potential enemy, yet in the last analysis the quality of the American Army is the most important factor. We must have—and we must continue to have—the best Army in the world.

Former Secretary of the Army Kenneth C. Royall

The Raid on Dieppe

Colonel C. P. Stacey, Director, Historical Section,
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This is the second of two articles on the Dieppe raid. In slightly abridged form, they comprise a part of Chapter IV and most of Chapter V of the volume, The Canadian Army 1939-1945, *by Colonel Stacey.* The first article appeared in the May issue of the* MILITARY REVIEW.—*The Editor.*

Fortunes of the Commandos

IN telling the story of the Dieppe raid, it is best, perhaps, to relate separately the fortunes of the units engaged on the different beaches, beginning with the extreme left, where the plan of attack was disrupted as a result of the encounter with the convoy.

The craft carrying No. 3 Commando were completely scattered. Most of the unit never reached the shore. Its Commanding Officer returned to England without knowing that any part of it had done so. In fact, however, seven of the 23 craft landed their troops. Thanks to the determination of these men, the attack on the Berneval battery was not wholly ineffective.

Part of No. 3 Commando had been ordered to land on *Yellow I* beach, at Petit Berneval, east of the battery, and part on *Yellow II* beach to the west. Of the seven craft which touched down, six landed their men (numbering perhaps 120) later than planned at *Yellow I* beach. The defenders were fully on the alert. Not only did they outnumber the small force put ashore, but they were soon reinforced by the equivalent of three companies more. By about 1000, after bitter fighting, the British were overwhelmed. The Germans claim to have taken 82 prisoners here.

At *Yellow II* beach, from which access inland was by a narrow gully, a single craft landed 20 officers and men. This little party, with magnificent effrontery, advanced against the battery. To take it was out of the question, but the Commando men got within 200 yards and sniped it for about an hour and a half, preventing the guns from firing against our ships. The party then withdrew without loss to the beach, where they were taken off by the same faithful craft that had put them ashore. The bold action and extraordinary good fortune of this one boatload of men is a very bright spot in the gloom which otherwise pervades the eastern flank beaches.

In striking contrast with the ill-luck of No. 3 Commando on the extreme left, were the fortunes of No. 4 at Varengeville on the extreme right. This attack went precisely according to plan. The unit landed in two parties on different beaches (*Orange I* at Vasterival, north of the enemy battery, and *Orange II*, the longer beach near Quiberville). The first party put in a "holding" attack against the battery, firing on it with mortars. A mortar bomb (or, according to German accounts, shots from low-flying RAF aircraft) hit

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and set fire to the charges stacked ready for use beside the German guns. Then, at 0620, the main party, having moved inland successfully, attacked the battery with the bayonet. In a short time, the enemy positions were cleared and the garrison cut to pieces.

The strength of the battery's garrison is variously stated by the Germans as from 93 to 112 men. Its losses, which vary only slightly in different accounts, were about 30 killed and 30 wounded. Four prisoners were brought back to England. No. 4 Commando suffered 45 casualties, including two officers and 10 other ranks killed, but its success was complete. The menace of this battery to our shipping off Dieppe was wholly removed, for its guns were blown up before the Commando withdrew according to plan. No. 4 Commando was the only unit engaged in this operation to capture all its objectives. Its proceedings are a model of boldness and effective synchronization.

Forewarned by a chance naval encounter, the Germans inflicted severe losses on the Canadian attack at Dieppe, but the raid provided many valuable lessons which were successfully applied later in the war

Canadian Flank Attacks: Puys

The ill-fortune which struck No. 3 Commando extended to the Canadian unit closest to it, the Royal Regiment of Canada at Puys. The beach here, and the gully behind it in which the little village lay, were both extremely narrow and were commanded at very short range by lofty cliffs. Success depended entirely upon surprise and upon the assault being made while it was dark enough to hinder the aim of the German gunners. Neither of these conditions was achieved. The German garrison at Puys was only two platoons. In the circumstances, it was quite enough.

The Royals were to land in three waves. Three companies were in the first wave, the remaining company and battalion headquarters in the second ten minutes later. A special force, composed mainly of three attached platoons of the Black Watch (Royal Highland Regiment) of Canada, was in the third wave. The naval landing arrangements, however, ran into bad luck. There was delay in forming up after the landing craft were lowered from the ships. During the run-in, certain craft became separated from the main body. The result was that the first wave landed, according to naval reports, 17 minutes late (when it was much lighter than had been intended). The second wave, or the second main group of craft, seems to have touched down some 20 minutes later. At least two craft came in independently. The Germans were fully on the alert and opened fire on the first craft before they touched down.

At the head of the beach, was a seawall, with heavy wire upon it and behind it. As the Royals leaped ashore and rushed towards this wall, intense machine-gun fire came down, and many men fell. Halfway up the east cliff, flanking the beach, was a prominent house. In its front garden, as we now know, there was a strong concrete pillbox, whose main slit had a murderous command. The platoons took shelter against the wall while breaches were blown in the wire. But the men were still enfiladed from the left, and there were further casualties. Shortly, mortars began to drop bombs upon the beach. Bangalore torpedoes were exploded in the wire to cut it. Gallant officers and men rushed through the gaps, and many were shot down in the attempt to come to grips with the invisible enemy.

The third wave was to land when "called in" by the men on shore. No signal being received, the senior military officer, in its absence, made the decision to land. The Black Watch platoons went ashore under the cliff to the west of the seawall, where the main body of survivors of the earlier waves were gathered. It was too late for these reinforcements to achieve anything, and most of the Highlanders subsequently became prisoners.

The only party of the Royals of any strength to get off the beach comprised about 20 officers and men. It cut its way through the wire at the western end of the seawall, reached the cliff-top and cleared two houses there. Machine-gun fire coming down on the gap in the wire cut it off from support. The party lay up in a nearby wood until it was obvious that the raiding force had withdrawn and that there was no hope of being taken off. At 1620, they surrendered.

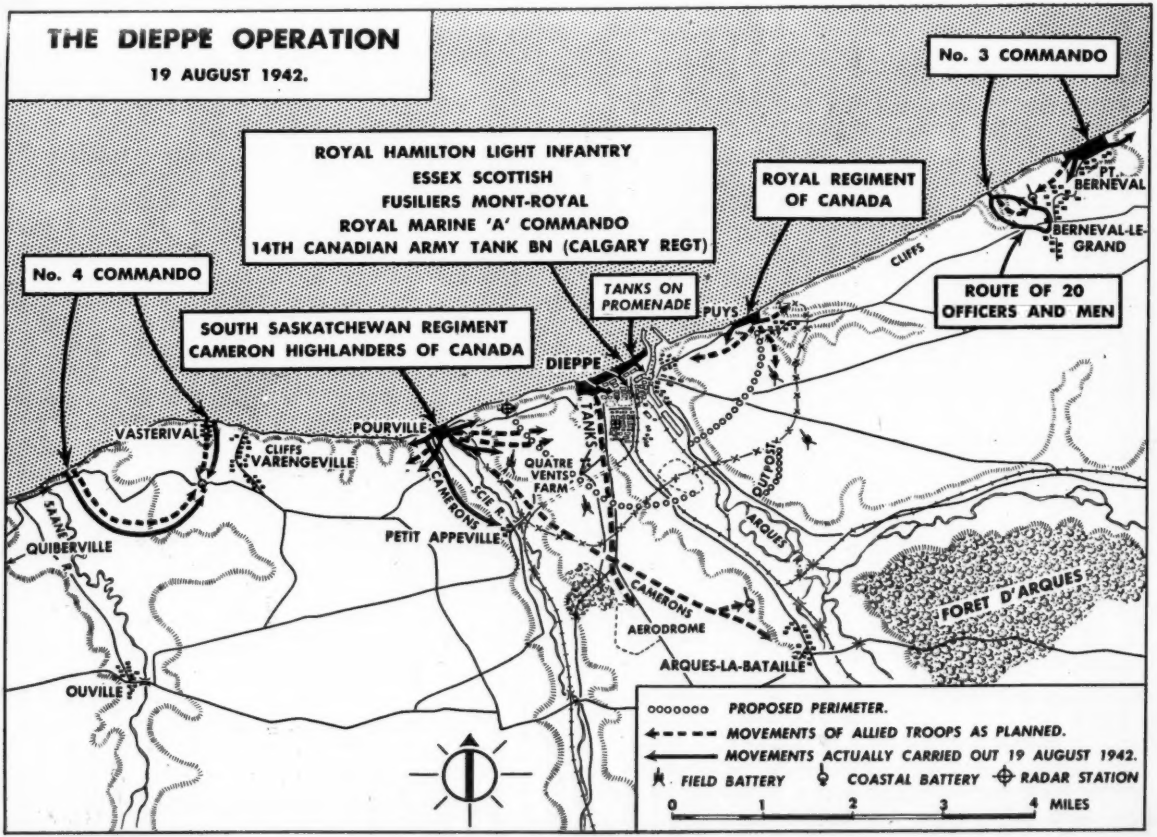
In the face of the German fire (a troop of four howitzers in position only a few hundred yards south of Puys fired 550 rounds during the morning at craft offshore), it was impossible to organize any systematic evacuation of the beach. Valiant attempts were made by the Navy but very few of the Royals got back to England. Their casualties from mortar and machine-gun fire had been very heavy. When the remnant on the beach surrendered, which German logs indicate must have been about 0830, not many can have been unwounded. The enemy states that over 150 dead were counted at Puys. Along the fatal seawall, the men of the Royals lay in heaps. It was the most tragic single episode of the entire operation.

This setback had a decidedly adverse effect upon the raid as a whole, for the Royals had had the task of clearing the commanding headland immediately east of Dieppe. Their failure to do so meant that the numerous weapons there were able to enfilade the main beaches in front of the town at close range. For the Essex Scottish, in particular, this was a most serious matter.

Canadian Flank Attacks: Pourville

The other Canadian flank attack, at Pourville, west of Dieppe, met with somewhat better fortune. The beach here was longer than that at Puys. Nevertheless, it was dominated by cliffs on both sides. The Navy put the South Saskatchewan Regiment ashore at the time planned, or a very few minutes later. There was no opposition until the unit had landed, although heavy fire broke out as the Canadians scaled the seawall and went forward into Pourville. In the semidarkness, however, the craft had not been able to strike the precise parts of the beach intended. This largely nullified the effect of the surprise that had been achieved. While the intention had been to land the unit *astride* the mouth of the River Scie, which flows into the Channel near the middle of the beach, almost the whole of the unit seems to have been actually landed *west* of the river. This meant that those companies charged with the vital task of gaining possession of the high ground to the eastward immediately overlooking Pourville had first to penetrate into the village and cross the river by the bridge on the main road to Dieppe. The delay thus caused was probably fatal.

The company operating to the west of Pourville duly occupied all its objectives, including positions on the high ground immediately southwest of the village. The unit killed or captured a good many Germans in the process. The companies working to the eastward had no such success. Before they could reach the enemy positions on the heights, these positions were manned and firing. The eastern part of the village, and the bridge, were completely dominated by these positions. Soon, the bridge was carpeted with dead and the advance of the South Saskatchewans was


THE DIEPPE OPERATION
19 AUGUST 1942.
No. 3 COMMANDO
ROYAL HAMILTON LIGHT INFANTRY
ESSEX SCOTTISH
FUSILIERS MONT-ROYAL
ROYAL MARINE 'A' COMMANDO
14TH CANADIAN ARMY TANK BN (CALGARY REGT)
ROYAL REGIMENT OF CANADA
No. 4 COMMANDO
TANKS ON PROMENADE
SOUTH SASKATCHEWAN REGIMENT
CAMERON HIGHLANDERS OF CANADA
ROUTE OF 20 OFFICERS AND MEN
PT. BERNEVAL
BERNEVAL-LE-GRAND
CLIFFS
PUYS
DIEPPE
POURVILLE
VASTERIVAL
CLIFFS
VARENGEVILLE
TANKS
QUATRE VENTS FARM
CAMERONS
SCIE R.
PETIT APPEVILLE
QUIBERVILLE
SAANE R.
OUTPOST
ARQUES R.
FORET D'ARQUES
CAMERONS
AERODROME
ARQUES-LA-BATAILLE
OUVILLE
PROPOSED PERIMETER.
MOVEMENTS OF ALLIED TROOPS AS PLANNED.
MOVEMENTS ACTUALLY CARRIED OUT 19 AUGUST 1942.
FIELD BATTERY
COASTAL BATTERY
RADAR STATION
0 1 2 3 4 MILES

held up. The posts on the summit, including the trench system of Quatre Vents Farm and the fortified radar station which was one of the raid's objectives, could not be cleared. The enemy had every approach covered by mortar and machine-gun fire. Our thrusts were all beaten back, although small parties got very close to the heavily-wired radar station and one reached the edge of the Four Winds position.

The Cameron Highlanders, who were to pass through the Pourville bridgehead and operate against the aerodrome in conjunction with the tanks from Dieppe, were landed rather late. As they came in, it was apparent to them that the South Saskatchewans had not succeeded in opening up their bridgehead in the full manner expected. Fighting was clearly in progress in the outskirts of Pourville, and shells were bursting in the water offshore. But the Highlanders pushed on, and as the landing craft drove into the shallows, their pipes answered the whine of the shells and the rattle of the machine guns.

The Commanding Officer of the Cameron Highlanders was killed in the landing.

To advance to the aerodrome by the route east of the Scie, while the enemy held the high ground there, was out of the question. The new Commanding Officer decided to move by the west bank. This he did with the main body of his battalion, leaving behind him one company and parts of two others, which had landed east of the river, to assist the South Saskatchewans.

The column pushed rapidly inland, destroying small parties of Germans who sought to bar the way. After covering two miles or more, it reached Petit Appeville (where the main crossroads is called today "Carrefour des Canadiens") and overlooked the bridges across the Scie here, which it must pass to reach the aerodrome. But the tanks which should have been in evidence east of the river were not to be seen. The crossings were held by the enemy, which had brought up a reserve battalion from Ouville. Time was growing short. The Commanding Officer had already decided to fall back to Pourville when a wireless message arrived ordering this action. The unit withdrew, suffering and inflicting casualties on the way. It had penetrated farther inland than any other battalion engaged that day.

The South Saskatchewans and the Camerons lost heavily during the final evacuation. The enemy was able to bring fierce fire to bear upon the beach from his lofty positions east of the village, and from the high ground to the west, from which the South Saskatchewan company had retired as a result of a misunderstanding of orders. But the naval craft came in through the storm of steel with self-sacrificing gallantry. The enemy's troops, who showed little stomach for really close fighting, were kept at arm's length by a courageous rearguard. The greater part of both units was therefore successfully re-embarked, though many of the men were wounded. The rearguard could not be brought off. It held out on the beach until towards 1330, and surrendered only when ammunition was running low and it was clear that there was no possibility of evacuation or of doing further harm to the enemy.

The Frontal Attack on Dieppe

At 0520, the exact time appointed, or within a minute or two of it, the infantry units charged with the main attack touched down on the long beach in front of Dieppe's Promenade. The assault was covered by the guns of four destroyers. The Air Force also played its part exactly as scheduled. As the boats approached the shore, five squadrons of cannon-firing Hurricanes poured shells into the beach defenses and the houses fronting the sea. Their attack ended just as the Essex Scottish on the left and the Royal Hamilton Light Infantry (RHLI) on the right

leaped from their assault craft and began to make their way through the wire obstacles towards the town.

Here there was further bad luck. The craft carrying the first nine tanks should have touched down simultaneously with the infantry, so that the Churchills' 6-pounders might assist in beating down the defenses. Through a navigational error, they were from 10 to 15 minutes late. During this period, between the cessation of the naval and air bambardment and the arrival of the tanks, there was no support for the infantry. The enemy, returning to the guns whose fire had evidently been temporarily checked by the Hurricane attack, was able to bring destructive fire upon the beaches.

At the west end of the Promenade, in front of the town, stood the large isolated Casino. It had lately been partly blown up by the enemy as an anti-invasion precaution, but explosives had been lacking to complete the job. The building and pillboxes near it were strongly held. Clearing them took time, but the RHLI shortly broke into the Casino and rounded up the snipers lurking in it. Parties of the RHLI pushed on through the Casino and some got across the bullet-swept boulevard at the rear into the town. One group penetrated into the center of Dieppe and fought the enemy in the streets south of the Church of St. Remy. Afterwards this group withdrew to a theater behind the Casino, maintaining itself there for some time.

On the open eastern section of the beach, the Essex Scottish could make no progress. The enemy was able to sweep this sector both from the houses and from the East Headland, and the Essex were subjected to particularly fierce mortar fire. Attacks made across the seawall immediately after the landing were beaten back with loss so heavy that further offensive action became impossible. So far as is known, only one party of the battalion got across the Promenade and into the buildings. This consisted of about a dozen men.

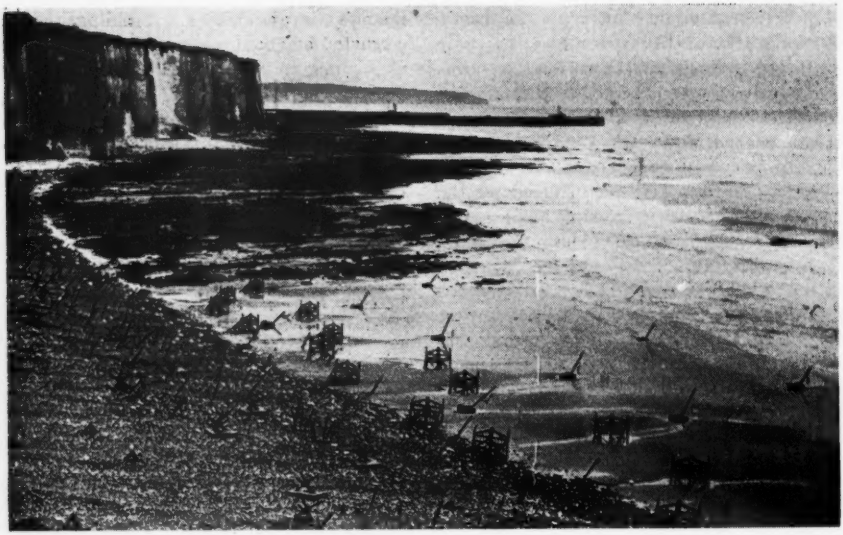
Churchills on the Beach

The Calgary Regiment, whose tank landing craft were now approaching the Dieppe beaches, was the first unit of the Canadian Armored Corps ever to go into action. This was, moreover, the first battle of the Churchill tank, as well as the earliest test of tank landing craft under fire.

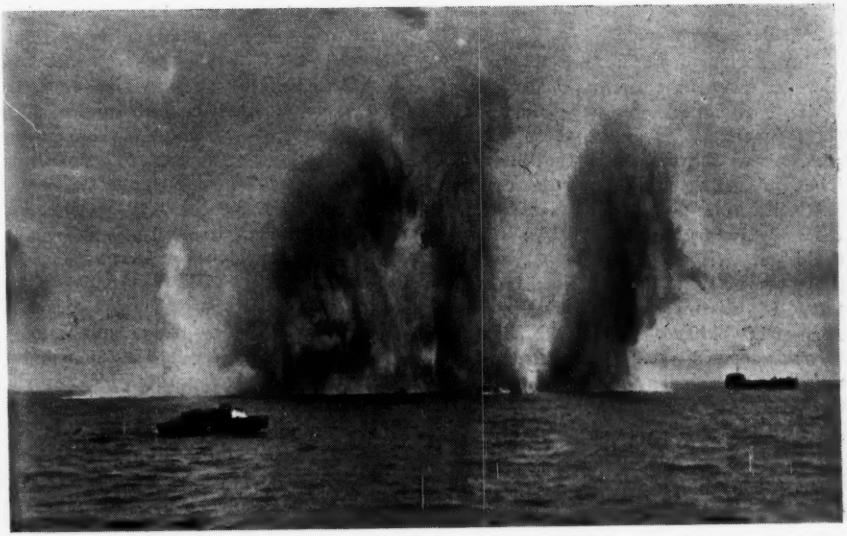
When the craft touched down, they immediately attracted a veritable inferno of fire. Several were badly damaged. Of the first six to land, two could not be brought off the beach. Yet the tanks duly went ashore and their guns instantly came into action.

It was believed at the time that the seawall forming the seaward edge of the Promenade had proved a very serious obstacle to the tanks. German propaganda pictures revealed many of them crowded on the beach, and it was assumed that they had never got off it. In fact, a considerable number crossed the seawall and subsequently returned to the beach. The wall was not passable in the center, where a mechanical excavator had been digging a ditch in front of the wall. At either end, it rose less than two feet above the shingle. The Churchills, aided by a device developed by the Engineers for laying chestnut paling to give them traction, had no great difficulty in surmounting it.

Ten tank landing craft touched down, and of the 30 Churchills they carried, only one remained on board. Two tanks were "drowned" by going off into deep water. The Commanding Officer is believed to have been shot down as he came ashore. Of the 27 tanks that landed, about half crossed the wall. Officers of the Calgary Regiment say that certainly 13, and probably 15, did so. Their testimony is supported by the report of the German 81st Corps, which states on the authority of



Across this beach at Puys (above), the Royal Regiment of Canada attacked during the Dieppe raid; the Germans placed the obstacles on the beach after the raid. The painting reproduced below shows the Promenade at Dieppe, where the Royal Hamilton Light Infantry made its frontal attack; the Casino is at the right.—Canadian Army photos.



Above, bombs dropped by a German Junkers 88 plane harassed British landing craft at 1100 on 19 August 1942, as the vessels moved in to the beaches to evacuate the Canadian combat units. Below, German prisoners taken by the Canadian forces are shown as they were being landed in England after the Dieppe raid.—Canadian and US Army photos.

eyewitnesses that "probably 16" tanks reached the Promenade.

More serious obstacles than the seawall, however, were the heavy concrete road blocks barring the streets leading out of the Promenade. To breach these with explosives was the business of the Engineers. Some of the demolition parties had not succeeded in landing, while others had had their equipment destroyed. Those who could get within reach went forward gallantly, in spite of deadly fire from the lofty old Castle above the Casino. But none of the blocks was breached. Although it was reported after the operation that three or four tanks had penetrated into the town, this was not the case. No tank got farther than the Promenade.

The tanks immobilized by damage continued firing, operating, in effect, as pillboxes. They effectively supported the infantry, who speak in the warmest terms of the manner in which the tanks were fought. The skill and courage of the tank crews certainly contributed to the withdrawal of many of the infantrymen. Determined to cover the infantry to the last, the crews did not leave their vehicles until 1225. By this time, evacuation had virtually ceased. Of the tank crews that landed, only one individual is known to have returned to England.

Landing of the Reserves

The assault once delivered, General Roberts' only means of influencing the battle was by committing his small floating reserve and by requesting air action from Uxbridge.

In handling the reserve, the General was hampered by the fact that throughout the action information reaching him about events on shore was limited and frequently quite inaccurate. We have seen that he heard of the disaster to No. 3 Commando more than 2 hours after it took place. Information about events at Puys was equally bad. For a long time, no report whatever was received. Then, about 0620, information came in that the Royal Regiment had been *unable to land*. Just how this false report originated is not clear. It was probably a garbled version of a radio message recorded elsewhere: "Impossible to land any more troops on Blue Beach." Reports concerning the main beach were almost equally misleading. About 0610, a message is recorded: "Essex Scottish across the beaches and in houses." This appears to have originated in a signal from the Essex to the RHLI describing the penetration made by a small party. Reaching the Military Force Commander in this extremely exaggerated form, it was responsible for his decision to land the floating reserve. Believing that the Essex had made a penetration suitable for exploitation, and strongly convinced of the overmastering necessity of getting control of the East Headland, General Roberts issued orders for the Royal Regiment (which he believed to be still afloat) to come to *Red Beach*, to support the Essex. About the same time, he ordered *Les Fusiliers Mont-Royal* to land on the same beach. They went in at 0700.

Their craft was received with withering fire. The unit was landed along the whole extent of the main beaches, and a considerable part of it was put ashore on the narrow strip of shingle under the cliffs west of the town. The men landed here could accomplish nothing. Most of them became prisoners. Of the remainder, some were active in and around the Casino, while others were pinned down on the beach along with the greater part of the RHLI and the Essex. Small parties are reported to have penetrated into the town.

About an hour after the *Fusiliers* went in, reports reaching *Calpe* indicated that the tanks were making progress and that we were in control of the western section of the main beach. It was known that the Casino had been captured. It appeared that if additional forces could be brought

to bear an important success might yet be obtained. General Roberts accordingly decided to land the Marines near the Casino. The Marines had been originally intended for the destruction of enemy craft in Dieppe Harbor. Now the Marines were expected to pass around the town and attack the eastern cliff from the south. The reports received had been over-optimistic, and a most destructive fire met the Marines as they approached the shore. Pushing on with great gallantry, they suffered very heavy losses both before and after landing. Their Commanding Officer was killed while signalling the rear craft to turn back and abandon the attempt.

Withdrawal from the Main Beaches

About 0900, when it was apparent that the landing of the reserves had been without effect, the Naval and Military Force Commanders consulted together on the time for withdrawal. This was first fixed for 1030, but was later postponed for half an hour to make sure of contact with the Camerons, who were known to have moved inland. Moreover, the extra time would insure more effective air cover. At 1100, accordingly, the landing craft began to go in, covered by naval fire and RAF fighters. On the Essex Scottish beach, not many craft came in. Of those that did, a very high proportion (six out of eight mentioned in one naval report) were lost. More men were brought away from the western than from the eastern section of the main beach. While somewhat less than half the whole strength of the Royal Hamilton Light Infantry (217 all ranks out of 582 embarked) returned to England, the proportion of the Essex Scottish was much smaller. Out of 553 all ranks, the latter brought back only 52, of whom 28 were wounded.

The Force Commanders were determined to do everything possible to bring off the men remaining on shore. At 1248, *Calpe* went very close to the beach and shelled posts whose fire was believed to be preventing men from reaching the water. Other destroyers had previously gone close in to assist. HMS *Brocklesby* actually grounded by the stern for a moment as she turned away. As a last expedient, Captain Hughes-Hallett was preparing to send in the shallow-draught gunboat *Locust* when at 1310 a final message was received from the 6th Brigade's rudimentary headquarters: "Our people here have surrendered."

The conditions of evacuation were probably without parallel in the history of warfare. Yet thanks to the boundless skill and courage of the Navy a considerable proportion of the force was successfully brought away. Of the 4,963 all ranks of the Canadian Army embarked, 2,211 returned to England; 589 of these were wounded but survived, while in 28 cases wounds proved mortal. No less than 1,944 Canadian Officers and men, however, became prisoners of war and at least 558 of them were wounded. At Dieppe, from a force of fewer than 5,000 men engaged for only nine hours, the Canadian Army lost more prisoners than in the whole 11 months of the later campaign in Northwest Europe, or in the 20 months during which Canadians fought in Italy.

At 1358, the German artillery finally fell silent. Its meticulous returns indicate that it had fired 7,458 rounds during the battle, not counting antitank and antiaircraft shell. Our ships returned to England little molested by the *Luftwaffe*, which could not pierce the shield maintained above them by the RAF. Throughout, the work of the Allied Air Forces had been beyond praise. The RAF had used 69 squadrons; of these, six Fighter Squadrons and two Army Cooperation Squadrons were from the Royal Canadian Air Force. The United States Army Air Forces also played a part. The American day bomber force, which later grew so large, was just beginning its career, and at 1023, 23 Flying Fortresses effectively

attacked the enemy fighter aerodrome at Abbeville to keep it inactive during the withdrawal.

Thanks to the air umbrella, the enemy had been able to do, on the whole, remarkably little damage to our shipping off Dieppe. Only one major naval vessel was lost, the destroyer *Berkeley*, which was hit by a heavy bomb during the withdrawal and had to be sunk by a British torpedo. The raid had produced a tremendous aerial battle. The enemy's air effort was slow in getting under way. Ultimately, he threw into action the whole of his available resources in the west. Losses on both sides were heavy. The RAF's gallant and successful fight in support of the operation against the highly organized air defense of the enemy cost 106 aircraft, of which 98 were fighters or tactical reconnaissance aircraft. The enemy's losses, as now determined from captured German documents, were 48 aircraft destroyed and 24 damaged.

The Significance of Dieppe

The raid on Dieppe was perhaps the most hotly-discussed operation of the war. Tactically, it was an almost complete failure, for we suffered extremely heavy losses and attained few of our objectives. After the Normandy landings of 6 June 1944, however, the raid appeared in a new perspective. Historically, it is in the light of the events of that later day that it must be judged.

It is in order to glance first, however, at its immediate consequences within the Canadian Army Overseas, and in Canada. There is no doubt whatever that in the Army it produced a new sense of pride. After nearly three years of disappointment and frustration, it had been demonstrated that this Canadian Army could fight in the manner of that of 1914-1918. The bad luck and the losses did not diminish the confidence thus engendered. At the same time, the experience of Dieppe undoubtedly led Canadian soldiers to view the question of their own employment more soberly. There was less demand now for immediate assault upon the Germans in the west. The magnitude of such an enterprise was more clearly apparent than before, as was the need for the most detailed preparation, the most careful training, the most exacting discipline.

At home in Canada, the effects were different. Soldiers and civilians look at such things from widely separate points of view. Canadian civilians, particularly those who had lost relatives, saw only the casualty lists and the failure. It was quite impossible, without helping the enemy, to make any announcement of the actual lessons learned. As the raid was followed by another long period of inactivity by the Canadian forces, public opinion continued to dwell upon it for months. Comment, frequently very ill-informed, continued in the press and elsewhere. As has been made apparent, the responsibility for the tactical plan was widely distributed, and the Canadian share was limited. It was declared with the utmost assurance in at least one respectable publication, however, that the project for a raid on Dieppe and the plan for it were almost exclusively the work of Canadian officers and proved the bankruptcy of Canadian generalship. There can be little doubt that such criticism did something to undermine the hitherto unassailable prestige of General McNaughton with the public.

So much for the Canadian results of the operation. More important was its influence on future planning.

Needless to say, the raid was closely analyzed at Combined Operations Headquarters, and a detailed report was prepared incorporating the official "lessons learned." It is unnecessary here to state these lessons in full, but the most important should be summarized. One of them was that in the future, "assaults should be planned to develop round the

flanks of a strongly defended locality rather than frontally against it" unless overwhelming close support was available. Another was the necessity for the formation of "permanent naval assault forces with a coherence comparable to that of any other first-line fighting formations," and the desirability of training Army formations intended for amphibious assaults in close cooperation with such Naval forces. Still another was the importance of maintaining flexibility in the army plan, by providing the commander with a strong reserve to be available to "exploit success" at the points where it may be achieved. But the paramount lesson was "the need for overwhelming fire support, including close support, during the initial stages of the attack." This, it was recommended, should be provided "by heavy and medium Naval bombardment, by air action, by special vessels or craft working close inshore, and by using the fire power of the assaulting troops while still seaborne." The Naval Force Commander, incidentally, had reported that in his opinion a battleship could have operated off Diepe during the first hours of daylight without undue risk and would probably have turned the tide ashore in our favor.

Two other lessons, not so specifically stated in the official document, decidedly affected our later planning. First, it had been made pretty clear that the classical plan of securing a beach by landing infantry at dawn was not practicable in the face of well-organized defenses. A new technique of landing and support was required. Largely on the basis of the Dieppe experience, it was developed before the Normandy assault of 1944. Secondly, it had been shown that the military plan in such operations must not depend upon precise timing of the landings. Although in general a very high standard of precision was attained at Dieppe, we have seen that in at least two cases relatively slight inaccuracies in timing had most serious results. This possibility was avoided in planning the 1944 assault.

The contrast between the plan of the Dieppe assault and the plan followed on 6 June 1944 is, indeed, most striking. For the puny bombardment by four destroyers which covered the Dieppe frontal attack, the *Overlord* plan substituted the fire of a tremendous naval force including six battleships. In place of the brief attack by cannon-firing Hurricanes, we have the combined efforts of the British and American Bomber Commands, dropping more than 11,000 tons of bombs in 24 hours. We have engineer assault vehicles, amphibious tanks, new support craft of many types (including rocket bombardment ships). We also have the army helping to clear the way for its own assault with self-propelled artillery firing from tank landing craft. These devices and techniques, in many cases, stemmed directly from the experience of Dieppe, although the lessons of many later amphibious operations also helped to shape them.

The casualties sustained in the raid were part of the price paid for the knowledge that enabled the great operation of 1944 to be carried out at a cost in blood smaller than even the most optimistic had ventured to hope for. The assault on the Atlantic Wall was regarded as a most perilous and uncertain enterprise. When in the course of a week or so after D-day it became fully clear that the thing which men had hoped for, but scarcely expected, had really come to pass—that General Eisenhower's armies had smashed the barrier at a single blow and established themselves solidly in France—the name of Dieppe was suddenly on many lips. That much-criticized undertaking had made an essential contribution to the success of the most momentous operation of war ever attempted.

The Disintegration of the German Intelligence Services

Colonel Henry G. Sheen, *Cavalry*
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THE German, or rather the Nazi, intelligence services were defeated in World War II by two separate and distinct forces. One of these forces was internal jealousy and corruption. The other was Allied counterintelligence.

The successes attained by the Allies, as a result of standardized and integrated operation of the several counterintelligence organizations concerned, is a story which someday may receive the attention it merits. The subject of this article is limited to the internal disintegration of the German intelligence services.

The final chapter of the German intelligence services dates from the summer of 1944, when Himmler won his victory over the *Oberkommando der Wehrmacht* (OKW), or Military High Command. Until then, there had been two parallel and often competing organizations, the *Abwehr* or intelligence service of the OKW, and *Amt VI* (Bureau VI) of the *Reichssicherheitshauptamt* (RSHA), the headquarters of the National Security Service of the Nazi Party. The RSHA was an element of the *Schutzstaffel* (SS) of the party. Thus, on the one hand, we find the military intelligence service operating in behalf of the high command of the armed forces. On the other hand, we discover an intelligence organization established by, and operating in behalf of, a political party.

The *Abwehr* was organized functionally into three sections, numbered I, II, and III, and responsible, respectively, for the following:

I. The collection of operational intelligence.

II. The organization of sabotage and subversion in enemy or potential enemy territory.

III. Counterespionage and the safeguarding of the security of the *Wehrmacht*.

These sections were further subdivided into appropriate subsections. Inside Germany, and in occupied territory, the regional organization of the *Abwehr* was dependent upon, and parallel to, that of the OKW. In neutral countries, the *Abwehr* was represented by personnel attached to the German diplomatic missions. In addition to this static organization, there were so-called *Kommandos* and *Trupps* serving with the armies in operational areas. The *Abwehr* also maintained a small private army under Section II, the Brandenburg Division. It was used as a pool for linguists and other specialists and served as a task-force for sabotage and subversion activities. Until late 1941, the *Abwehr* performed a highly efficient intelligence and subversive mission. Then signs of decay became manifest. Victories had brought plunder. Life was sweet, the flesh-pots were tempting, and a German defeat seemed extremely remote.

One of the contributory factors to the Nazi Party's *anschluss* of the *Abwehr* was the corruption, inefficiency, and defeatism of many of its officers. Another was

Himmler's thirst for power. Secret intelligence work, particularly in neutral countries, often affords considerable opportunity for the unscrupulous or lazy officer or agent. As World War II dragged on, more and more *Abwehr* officers, faced with the alternative of combat service at the front, began to turn in reports which they must have known were wholly or largely invented by their agents. They even undertook to concoct such invention themselves. This tendency received encouragement in the form of lax treatment of such reports at Berlin. Vested interests also played their part. *Abwehr* officers who discovered that their agents were not reliable, were reluctant to report their own errors of judgment. Similarly, *Abwehr* headquarters, for face-saving reasons, was often compelled to support its incompetent or dishonest subordinates. So, the snowball of *Abwehr* corruption and inefficiency grew.

In the Abwehr, Germany had the basis for creating one of the world's most effective military intelligence services, but internal jealousy and corruption finally led to its complete control by the Nazi Party

The higher levels of the *Abwehr* were also notorious for defeatism. Direction was in the hands of a group of senior *Wehrmacht* officers who had never been fervent adherents of National Socialism. As the war turned against Germany, more and more *Abwehr* officers sought to save themselves by running to the Allies and turning "states evidence." The last great blow came when the Allies landed their forces on North African shores in the fall of 1942 and caught the *Abwehr* napping. Combat-loaded convoys of the Eastern Task Force passed through the Straits of Gibraltar under the very noses of German agents in Spain.

All this does not mean that the *Abwehr* performed no useful services. In many ways, it was well organized. In technical matters such as signal communications, its operations were very efficient. In the collection of information by more or less overt means such as the observation of shipping in the English Channel, it could do work of great value to the German High Command. While the German armies were advancing, it performed excellent services such as interrogations, seizure and exploitation of documents, reporting on port facilities in newly-captured harbors, etc. Reconnaissance against Partisans in Yugoslavia and Greece was also most effective. But in the procurement of valuable and genuinely secret information through the operation of well-placed agents, the *Abwehr's* output was small compared with the effort and funds expended.

By February 1944, it was clear that the inefficiency of the *Abwehr* could not be corrected by such administrative changes as had hitherto been carried out. Admiral Canaris, head of the *Abwehr*, was dismissed. After a short period of compromise, which only veiled the real struggle for power between Himmler and the OKW, the *Abwehr* was dissolved as an independent organization on 1 June 1944, and recreated as a subordinate office (*Militaerisches Amt*, or Military Bureau) of the RSHA. Thus, the Nazi Party absorbed the military intelligence service of the *Reich*.

The victory of Himmler and the SS simplified the reconstitution of the German Intelligence Services, in so far as they now became one organization instead of two. In another respect, it made the situation more complex and illogical. Al-

though the directors of the old *Abwehr* were almost all either dismissed (like Canaris) or ruined in the "plot of 20 July" (like Hansen and Freytag von Loringhoven), many of its components were taken over intact by the RSHA. The result, therefore, while it represented a triumph for the SS on the highest level, also represented a compromise in the lower strata.

To obtain a better understanding of the conflicting interests and jealousies which eventually assisted so materially in the destruction of the Nazi intelligence organization, it is best to consider the command structure, allocation of responsibilities, and key personalities involved therein. Heinrich Himmler combined four functions. Through him, this gave the National Socialist Party unlimited control of the German people. He hoped that this gave the party control of their destiny. These functions were:

1. Minister of the Interior (*Minister des Innern*).

2. Chief of German Police (*Chef der deutschen Polizei*).

3. National Leader of the SS (*Reichsfuehrer SS*).

4. Commander of the Reserve Army (*Oberbefehlshaber der Volkssturm*).

In addition to the rank and file of the SS itself, the following representative organizations were therefore subordinate to Himmler through their respective chiefs:

1. The Uniformed Police (*Ordnungspolizei* or *Orpo*).

2. The Security Police (*Sicherheitspolizei* or *Sipo*) subdivided into:

a. Secret State Police (*Geheime Staatspolizei* or *Gestapo*).

b. Criminal Police (*Kriminalpolizei* or *Kripo*).

3. The Party Security and Intelligence Service (*Sicherheitsdienst des Reichsfuehrers SS* or *SD*).

The three intelligence and police services just mentioned were grouped under the RSHA, previously referred to. The first chief of the RSHA was the infamous Reinhard Heydrich, proconsul for Czechoslovakia, whose assassination in 1942 resulted in the reprisal against the village of Lidice. Kaltenbrunner, who succeeded Heydrich, was the last chief of the RSHA. He was an Austrian and was regarded as the leader of the "Austrian group" which was ethnically antagonistic to other elements within the RSHA. Before his appointment to Heydrich's vacancy, he had been a Higher *SS* and police leader in Austria. Though he had a long and "good" record in the *SS*, he was not as prominent or as powerful as his predecessor. With the growth of his responsibilities, he was over-shadowed by some of his more forceful and efficient subordinates. Knowledge of this fact reacted upon his ego with such force as to compel him to thwart, rather than encourage, the more intelligent and enterprising of his underlings. Outstanding among these was Walter Schellenberg, chief of *Amt VI*, the bureau charged with the collection of foreign intelligence.

Schellenberg, an ambitious and able North German, had the ear of Himmler. Because of his place of origin and his close relationship with the *Reichsfuehrer SS*, he incurred the dislike and jealousy of Kaltenbrunner. Because of his intelligence and zest for work, he also incurred the enmity of some of his socially and intellectually inferior colleagues who, in some cases, played up to both Schellenberg and Kaltenbrunner in hopes of advancing their own personal fortunes. Thus, we find that much of the time and effort of Germany's top level intelligence personnel were devoted not to performance of duty but to striving for personal betterment.

Until the incorporation of the *Abwehr*, the RSHA was only slightly interested in sabotage, subversion, and terrorist ac-

tivity. These functions had been left to Section II of the *Abwehr*. The dissolution of the latter service presented the RSHA with new opportunities for empire-building in the realm of subversion. These opportunities were exploited through the creation of a special group under Schellenberg's *Amt VI*. The chief of this special group was Otto Skorzeny.

SS Obersturmbannfuehrer (Lieutenant Colonel) Skorzeny was born in Vienna in 1908. He was a member of the Student's *Freikorps* and the original illegal Nazi Party in Austria, and rose rapidly through the ranks of the *SS*. Possessed of a powerful physique, an aggressive spirit, and a mind keenly attuned to subversive activities requiring audacity and the employment of unusual methods, this man first incurred more than passing interest by his abduction of Mussolini in 1943. He also accomplished the abduction of Admiral Horthy. Although he was under Schellenberg, Skorzeny belonged to the Austrian group and naturally was more a follower of Kaltenbrunner than of his chief. As the operations of his group expanded, he became virtually independent of Schellenberg and reported direct to Kaltenbrunner, to Himmler, and sometimes to Hitler himself. The fragility and elasticity of the personal and professional loyalties of these men were nurtured not only by their own weakness of character, but also by a hero-worship of *Der Fuehrer* and his lieutenants. It was largely the hero-worship of Hitler which seduced Skorzeny. Hitler looked upon this *SS* desperado as the reincarnation of Siegfried. Such admiration from The Leader was an overpowering intoxicant.

The chief of *Amt IV* (*Gestapo*) of the RSHA was one Muller, a Bavarian who came to office during the Heydrich regime. It was expected that he would surely succeed Heydrich, but he became deputy to Kaltenbrunner instead. A tough and crafty policeman, Muller played his own game against both Kaltenbrunner and Schellenberg and rose to considerable power as a protege of Himmler.

Returning for a moment to Schellenberg's own *Amt VI* (the only bona fide intelligence element within the RSHA), it is interesting to note that one of his sections, though nominally under his control, worked directly for Kaltenbrunner. *Amt VI E*, supposedly responsible for the collection of intelligence pertaining to Italy, Central Europe, and Scandinavia, performed most of its operations in Vienna and vicinity. Composed largely of Austrian personnel, its two most important officers, Waneck and Hoettl, reported direct to Kaltenbrunner and ignored Schellenberg. This administrative and operational anomaly is illustrative of the organizational hodge-podge within the government of the Third *Reich* during the last months.

Aside from the RSHA, it is now quite apparent that even the powers exercised by Himmler were ineffectual in preventing Hitler's other puppets from carrying on a bit of free-wheeling in the intelligence field. Goering (founder of the *Gestapo* in 1933), Goebbels, and Ribbentrop each had his own snoop-troop unit. These dealt in foreign and domestic espionage, backstairs scandals and intrigue. Incidentally, they managed to embarrass the RSHA from time to time.

Nazi Germany had a magnificent opportunity to establish and operate what could have been the world's greatest intelligence organization. That this did not come to pass is, of course, fortunate. To a certain extent, its failure was a result of numerous internal ailments. Among the latter were such maladies as incompetence, politics, jealousy, corruption, greed, and bureaucratic stupidity. It is interesting to note that the germs which produced the maladies were cultivated with characteristic Teutonic thoroughness.

The Selection and Training of Staff Officers

Lieutenant Colonel Forrest Caraway, *Infantry*
Instructor, Command and General Staff College

DURING the period of rapid expansion of the Army of the United States in the early years of the recent war, the Army introduced a system of organizing new divisions that is generally conceded to be one of the best examples of large-scale planning ever produced in this country. The full discussion of this plan is beyond the scope of this article, but the method of selecting staff officers contained in that plan is of interest in the light of its demonstrated success.

Staffs of New Divisions

In the activation of new divisions, the designated commander was permitted to select his own chief of staff from available officers. This procedure insured that the chief would be able to work with the commander and, as the two officers were usually well acquainted, it permitted the chief to "get inside the mind" of his commander. This faculty is vital for a chief of staff.

The remainder of the staff was selected from available officers by the War Department. These officers were not necessarily experienced in staff work nor even graduates of the Command and General Staff School. The heads of the General Staff sections were then sent to Fort Leavenworth for a brief special course prior to reporting to the place of activation of the division.

From the above information, two points can be readily deduced:

First—The War Department believed, and successfully supported the belief, that competent staff officers in general are produced through adequate training.

Second—Any officer may at some time be called upon to serve on a staff, or to form a staff or section thereof, and be required to teach untrained subordinates.

Selection of Staff Officers

The first point deduced from a study of the activation of new division staffs —that staff officers are made, not born— must be accepted, like all generalities, with reasonable modifications. It is obvious that certain valuable officers might possess personal characteristics, such as inability to accept readily the commander's decision as his own, which would disqualify him for a staff position. But if officers are carefully selected on the basis of established criteria and traits, carefully placed, and then systematically trained, they can be developed into successful staff officers.

Some of the attributes or qualifications that a staff officer should possess are listed below:

1. Loyalty to his commander—a prime requisite.

2. A sense of responsibility to the subordinate commanders and the troops or operating units. The staff officer should see that the troops are protected from useless hardships and harassment

due to faulty staff management. By the issuance of clearly worded, readily understandable, forceful, and timely orders, the subordinates are given the assurance that the headquarters knows its business.

3. A thorough technical knowledge of his own special field and a comprehensive understanding of the problems and duties of the commander, the other staff sections, and the troops. It is desirable that a staff officer has been a subordinate unit commander prior to his appointment.

4. The ability to work well with others. A cooperative spirit, a strong sense of team play, and a willingness to assist others in their job is essential.

5. An open and receptive mind (flexibility). The staff officer must be willing to admit mistakes and to rectify them, and to accept the advice and assistance of others.

6. A pleasing personality. This includes modesty, a sense of humor, an understanding of human nature, and patience.

7. Judgment. This involves the ability to assemble information, to study it impartially, and then to arrive at a wise decision or conclusion.

8. The ability to concentrate, and to work rapidly and efficiently under stress.

9. An active and imaginative mind capable of planning in advance for the future.

10. The ability to express his ideas either orally or in writing in clear, concise language.

11. The courage of his convictions. The commander expects and welcomes honest opinions of his staff officers. A good staff officer gives his opinion and sustains it with all the facts available. However, once a decision is made, he accepts it loyally as his own and devotes his whole effort to its successful execution.

The close relationship between mental efficiency and emotion must always be borne in mind. The exercise of good judgment is impossible under the influence of strong emotion. There is need for courtesy, tact, and consideration in the staff officer in his dealings with other members of the staff as well as with the officers and men of other staffs. Good will and optimism are just as contagious as ill will and pessimism.

The Chief of Staff

The importance of the chief of staff's being able to "get inside the mind" of the commander has already been mentioned. For this reason, it is always desirable that the commander and his chief of staff should know each other well and be on intimate personal terms. This is not enough, however. Many cases can be cited—Grant and Rawlins for example—to show how personal friendship has assisted the smooth functioning of a command. On the other hand, it is possible to quote cases where this does not apply. For example, "Stonewall" Jackson used a clergyman for chief of staff for some time. While Jackson was probably as close, personally, to his chief of staff as he was to any subordinate, and the chief of staff was a man of high integrity and intelligence, the records are plain in pointing out the deficiencies of the combination.

In selecting a chief of staff, then, we

The plan for activating new divisions early in World War II showed that if officers are selected carefully, placed wisely, and trained systematically, they can be developed into successful staff officers

would look first for those personal characteristics we have outlined above. Granted these, the officer should then be selected on a basis of mutual knowledge and friendship.

Training of the Staff

The second point deduced was that any officer might be called upon to serve on a staff, despite lack of training, or he might be called upon to form a staff or section of a staff using untrained personnel. This point renders it imperative that consideration be given to methods of training to develop the latent abilities of officers cast into such a situation.

The best method of training is the one followed as closely as possible in peacetime, i.e., a careful, theoretical training, preferably in a formal school, followed by practical application as a member of an experienced functioning staff. Unfortunately, it is impossible to use this method in times of emergency and expansion because of the time involved.

Lacking the opportunity for careful, detailed, and thorough training, substitutes must be accepted. On-the-job training is the one most frequently used and it is probably the most successful of these substitutes. An untrained officer detailed on a staff can learn rapidly by observing and questioning the more experienced staff officers of his own and other headquarters. A study of manuals and other publications will rapidly reveal the scope of the position and its responsibilities. Assistance and direction during this training must be provided by the chief of staff and the section heads concerned. The chief of staff is, of course, responsible for the training of the staff.

Besides on-the-job training, other measures must be devised and utilized. The specialized amphibious training conducted in special schools in the past war is one example. Visits to other headquarters, for the purpose of observing their functioning, are also desirable. Finally, if special short courses at the various service schools are available, every effort should be made to utilize these courses to the maximum extent.

The above measures are all applicable to the training of individuals as staff officers. Such training is not enough in itself, because even if individuals have met minimum standards, it is still necessary to train the staff as a whole.

The most familiar device in training staffs is the so-called CPX or command post exercise. This training method provides maximum training for a staff with minimum participation of troops and consequent dislocation of their own training or operations. Such training, however, lacks the final test of realism in that the plans are not actually being carried through and executed. Thus, mistakes may not be brought to light and their consequences forceably demonstrated. To overcome this defect, the full-scale maneuver should be utilized when possible. It is far better that weaknesses in training or operations be demonstrated in maneuvers than in battle.

Morale

While it is assumed that a staff would be competent and able to carry out its duties at the end of a complete training period, it must be remembered that a staff, like any other military unit, is affected by such factors as morale and discipline. Thus, a staff cannot function efficiently nor fully discharge its duty of assisting the commander without the morale and *esprit de corps* necessary to all organizations. The methods of securing *esprit de corps* in a staff are identical to those used in any other military element. They consist essentially in the exercise of sound leadership, maintenance of discipline, and the cultivation of pride in the unit.

Tanks With the Infantry Division

Lieutenant Colonel William D. Duncan, *Cavalry*
Former Instructor, Command and General Staff College

A NEW era has begun for the infantry division—an era in which the infantry division may be as spectacular in its employment of mobility and firepower as the armored division and still retain its ability to fight successfully on any type of terrain. The new era was ushered in by the inclusion of 144 tanks in the latest organization of the infantry division. The tanks are located in the three regimental tank companies and the tank battalion and reconnaissance company of the new infantry division.

In the reconnaissance company and the regimental tank companies, the new infantry division has the equivalent of the wartime attached separate tank battalions.

In the tank battalion, the new infantry division has armor comparable to that frequently found in the combat command of an armored division. Whether, in the new era, full appreciation of the potentialities of the new infantry division are realized will depend upon the ingenuity, flexibility, and daring of the tank and the infantry commanders. They must determine the proper mission for the armor and the most effective methods of the employment of armor with the infantry.

Missions for Infantry Tanks

In the new infantry division, the employment of armor will be conditioned by the assigned mission. In the offensive, the regimental tank company adds offensive power to the infantry regiment by employing its fire power, ability to destroy barbed wire, and shock effect. It also performs an important antitank role during the offense and its location in support of assault infantry units facilitates accomplishment of this mission. In the defense, the primary roles of the infantry tank company are tank protection and participation in counterattacks to the extent permitted by the antitank role.

The missions of the infantry division tank battalion are (1) to add strength to the attack and counterattack through direct fire support, mobility, and shock effect; (2) to assist in exploiting successes in the attack; and (3) to add depth to the antitank protection in both the offense and defense.

Offensive Action

There are several ways to employ the infantry division tanks in offensive action.

One method is for the infantry elements and the tank elements to attack the same objective from different directions. When conditions permit or require such employment, it is desirable to have the infantry occupy the objective immediately after the objective is overrun by the tanks.

With 144 tanks included in its organization, the new infantry division may employ its mobility and firepower as spectacularly as the armored division and yet retain its ability to fight on any type of terrain

Accurate timing is of great importance in this method of attack (see Figure 1).

A second method is for the tanks to form initially a base of fire for the infantry attack, and then to advance and rapidly pass through the infantry to lead the attack as the two elements approach the objective. This method of attack provides the maximum in accurate direct fire support for the attacking infantry elements and reduces the length of time the attacking tanks will be under fire of enemy antitank guns. In this way, a maximum of surprise, fire effect, and shock action is provided. This method is illustrated by the attack of the 743d Tank Battalion in support of the 117th Infantry Regiment, 30th Infantry Division, on 19 November 1944 (see Figure 2).

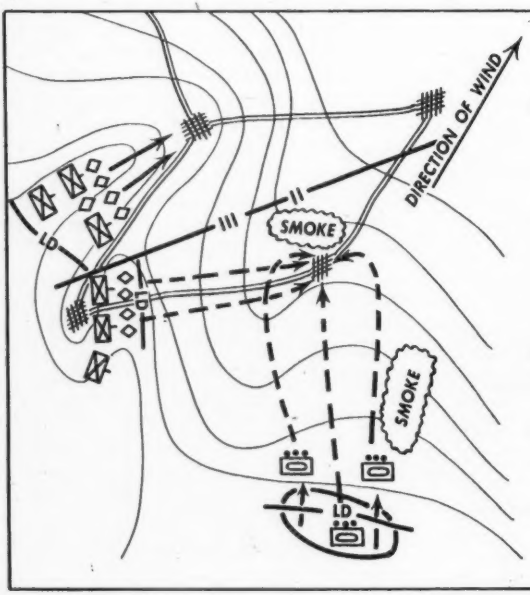


FIGURE 1.

Infantry and tanks meet on objective, infantry taking advantage of cover of village and reverse slope to support attack of regimental tank company less one platoon.

Regimental tank company less one platoon advances rapidly over long open stretch under cover of heavy artillery support to surround the town just prior to the arrival of the infantry.

The 2d Battalion, 117th Infantry, with Company A, 743d Tank Battalion attached, and the 3d Battalion, same regiment, with Company C, 743d Tank Battalion (minus 1 platoon) attached, attacked abreast, the 3d Battalion on the right, and seized Kinzweiler and St. Joris. Each battalion employed two infantry companies in the assault. The infantry companies, supported by the fire of 12 artillery battalions, moved rapidly across the open terrain under cover of the direct fire of the attached tank companies and of the tanks and heavy weapons of the 120th Infantry Regiment in the vicinity of Neusen.

As the leading elements of the assault infantry companies arrived along the line A-B the tanks, each carrying four infantrymen, moved out rapidly. The tanks passed through the infantry to lead the attack as the two elements arrived at the edge of the town.

Results: 1. The assault infantry companies crossing the line of departure (LD) at 0800 arrived at the objective at

0819 and consolidated the objective by 0845.

2. Enemy losses included 223 prisoners (including two battalion commanders and their staffs); a number of dead; three self-propelled guns; four 75-mm antitank guns; four half tracks, etc.

3. Our losses included four killed in action; 35 wounded (includes casualties throughout the day from enemy artillery); four Sherman tanks disabled by enemy mines.

Comments: If the infantry and tanks had advanced together over the 1,500 yards of open ground at the normal speed of advance of a foot soldier, it seems probable there would have been many more friendly tanks destroyed and a greater number of casualties among the infantry.

In the third method of employment, the tanks, carrying infantry, advance at full speed to the objective while covered by the direct fire of supporting units and by friendly artillery. This method has the advantage of rapidly placing the infantryman on the objective in the minimum time, with the minimum losses and minimum fatigue. The two disadvantages are (1) the infantrymen on the tank interfere to some degree with the tank action; and (2) the infantryman is unable to efficiently employ his individual weapon. This method is especially adapted to well-planned night attacks over good tank terrain. A very successful historical example of this method is found in the attack by Company A, 743d Tank Battalion, in support of the 117th Infantry Regiment, 30th Infantry Division, on 18 November 1944 (see Figure 3).

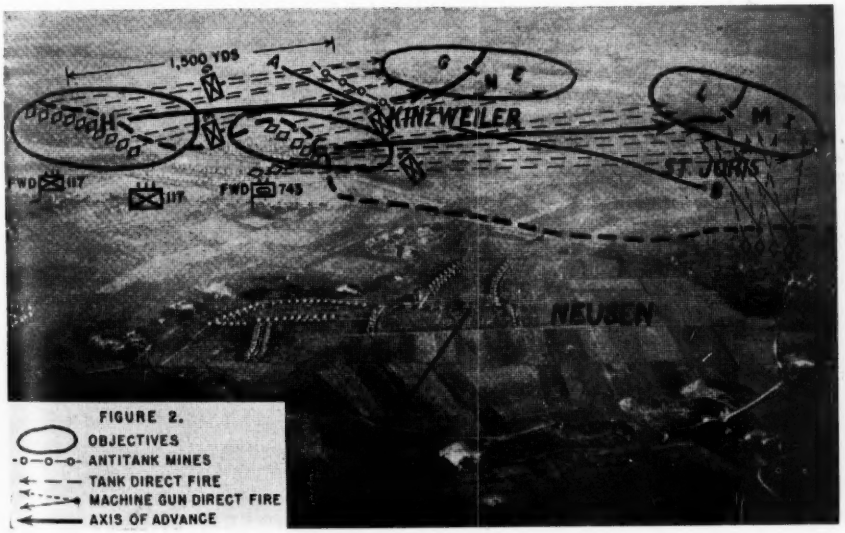


FIGURE 2.

At 0730, the 1st Battalion, 117th Infantry, launched an attack upon the town of Warden from Mariandorf. The initial blow was thwarted by powerful screens of enemy artillery and small arms fire, as well as by direct fire from dug-in tanks. At 1115, the attack was renewed but again the devastating superiority of opposing fire had caused heavy casualties and had

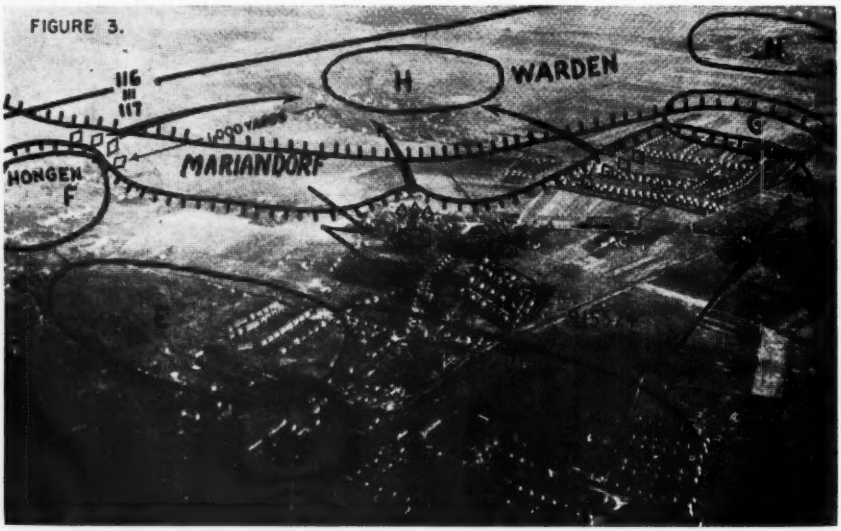
finally stopped the advance short of its goal. One company alone lost more than 70 men in the short engagement.

The tank battalion commander then suggested that A Company, with its 11 tanks, rush the town after a heavy artillery concentration.

Sufficient time was taken to coordinate the tank-infantry and artillery effort. At 1515, following closely behind the intensive artillery preparation, the 11 tanks, each carrying four infantrymen, antitank guns and seven machine guns were overrun by the fast moving tanks.

3. During the final assault on Warden, there were no casualties among our tanks or infantry.

Comments: The comparison of the results of this method of attack in this situation with the results of the method employed in the 0730 and 1115 attacks, shows the importance of attempting another method if the first one fails. It is claimed by some that this method of



rushed the town simultaneously from three sides at top speed.

Results: 1. One tank platoon of four tanks raced into Warden at 1520 from Hongen. A second platoon of three tanks attacked from Mariandorf. A third platoon attacked from the build-up area south of objective G. The rest of the 117th Infantry followed the tanks rapidly and seized the town by 1600. The objective was consolidated by 1620.

2. 209 prisoners were captured. Two enemy self-propelled assault guns, two

tank-infantry employment renders the infantryman more vulnerable to enemy fires (particularly air bursts) than does the normal infantry attack. However, if the attack is launched with surprise, executed with speed, and covered by heavy friendly artillery fire, the tanks with their mounted infantry will be on the objective before they begin to receive enemy artillery fire. It is doubtful that there will be more casualties among infantrymen riding tanks during the short time interval necessary for tanks to reach

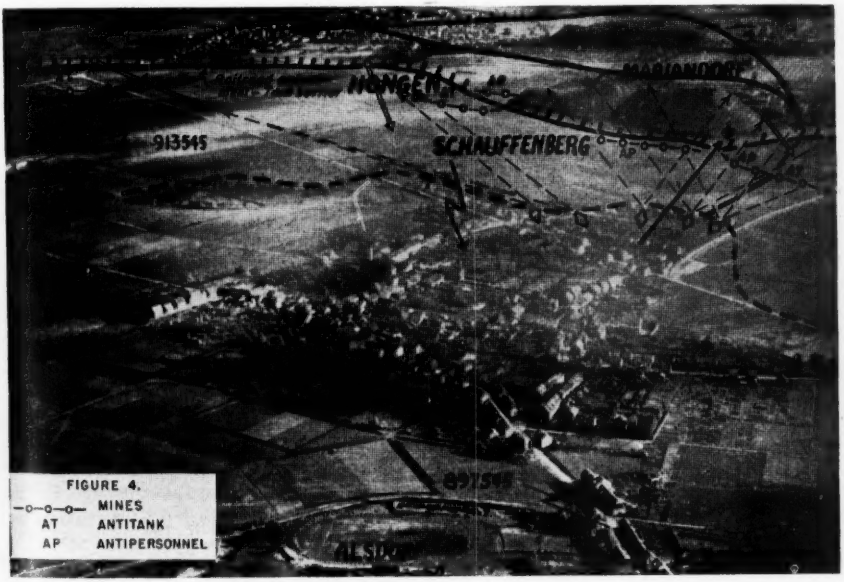
the objective than there will be among infantrymen advancing on foot over a long time interval.

In the fourth method of employment, the tanks may accompany or operate near the infantry and move at their same slow rate of advance. This method was frequently used by the infantry divisions in employing the attached separate tank battalions in World War II. Although this method is required by many situations, it is often used because of lack of imagination on the part of the tank and infantry commanders. Its major disadvantages are (1) decreased shock action and (2) slow movement which results in greater tank and infantry casualties.

In the fifth method, tanks may be used for overwatching infantry (see Figure 4). This is the least efficient of all methods of employment and should be used only when terrain or obstacles restrict tank movement to the objective.

On 16 November, the 117th Infantry Regiment with Company A, 743d Tank Battalion, attached, jumped off in a perfectly conducted attack and captured the town of Mariandorf, Germany. This attack was part of the operation of the 30th Infantry Division which was called the "Perfect Infantry Attack" by XIX Corps, Ninth Army.

As indicated on Figure 4, the enemy was well organized and had been preparing the defensive positions of Mariandorf for over a month.



The regiment attacked at 1245 with two battalions abreast, supported by the direct fire of its third battalion and of Company A, 743d Battalion.

The assaulting battalions advanced at double time over most of the 1,000 yards of open ground while friendly artillery pounded Mariandorf. Within 15 minutes, the leading elements of the assault battalions were digging the enemy out of the

holes into which the combined fire of the artillery, tanks, and the reserve battalion had driven them. The vital Mariandorf bridge over the sunken railroad bed was captured intact with 400 pounds of demolitions attached. The main Mariandorf-Schaufenberg Highway was immediately cleared of mines and Company A, 743d Tank Battalion, raced at top speed from Schaufenberg to Mariandorf, one tank section at a time, under cover of the tanks waiting to make the dash. Enemy antitank guns on the flank attempted to hit the tanks as they raced down the road but were unsuccessful. By 1400, the entire tank company was in Mariandorf helping the infantry clean out the town.

In this situation, the terrain, the mine fields, the sunken railroad across a part of the front, and a railroad embankment across the remainder dictated that the tanks play the role of overwatching the infantry initially. If the tanks had attempted to lead the infantry or to advance with them, they would have been destroyed on the open ground in front of the tank obstacles. The tanks, in such a case, would have offered little, if any, assistance.

A combination or modification of the five basic methods given above will often be necessary and desired. The methods of employment of the tank-infantry team at company, battalion, regimental, and division levels are limited only by the experience, flexibility of mind, and originality of the commanders involved.

Defensive Action

In general, the tanks of the infantry division will either (1) occupy camouflaged and/or dug-in positions in depth throughout the defensive sector, or (2) will be concentrated in sufficient numbers as a counterattacking force.

Normally the regimental tank companies will be employed defensively as indicated in (1) above. When so employed, plans should be made to permit rapid concentration of the tanks for a resumption of the attack or for a counterattack.

In the defensive, the infantry division tank battalion is normally in division reserve as a counterattacking force. However, the tanks of the tank battalion should not be idle in an assembly area but should be employed to strengthen the antitank defense of the division area. This must not reduce the tank battalion's effectiveness for counterattack.

Basic Problems Affecting Operations

The tanks can be fully employed only if they have the necessary ammunition, gas, oil, and maintenance.

The 743d Tank Battalion attached to the 30th Infantry Division in the ETO drew an average of 4.4 tons of ammunition daily from the ASP, during the period 6 June 1944 to 30 December 1944. It can be expected that the three regimental tank companies together will expend a similar amount of ammunition under the same conditions. The infantry division tank battalion will expend less, as it will be employed less frequently than will the regimental tank companies.

Each of the regimental tank companies can be expected to burn about 1,400 gallons of gasoline daily. When all tank units of the division are employed on a normal operation, they will burn approximately 14,000 gallons of gasoline daily.

The tanks, because of their complexity and weight, require a great deal more maintenance at every echelon than do wheel vehicles. Thus, with the addition of the regimental tank companies and the division tank battalion to the infantry division, the supply and maintenance problem of the infantry regiment and division has doubled. It is essential for the regimental and division commanders to appreciate thoroughly these problems to obtain the maximum use of their tanks.

The greatest problem that will arise for the regimental and division commanders

will be the maintenance of the regimental tank company in effective fighting condition. The fighting ability of the regimental tank company will be determined to a large extent by the number of tanks that can be employed in any given action. Based upon experiences of the majority of separate tank battalions in the European Theater, the infantry battalion and regimental commanders will employ all tanks available continually. Seldom, if ever, will the regimental tank company be allowed to be in regimental reserve. There will be little opportunity for rest and rehabilitation of tank crews except when their tanks are in maintenance or when there are no tank replacements for those destroyed. Such a condition will exist unless the division commander takes steps to insure that the regimental tank companies are furnished an opportunity for adequate maintenance, rest, and rehabilitation.

To insure such an opportunity, it will be necessary for the division commander to relieve the regimental tank company by replacing it with a tank company from the division tank battalion. This relief will allow the regimental tank company to recover from combat weariness and to concentrate on reequipment and maintenance under supervision and guidance of the division tank battalion commander and with the help of the tank battalion maintenance platoon.

The continuous maintenance of the regimental tank company in the line by replacement of individual tank crew members, by the replacement of individual tanks with complete crews, or by the replacement of an entire platoon from the division tank battalion, should be avoided.

The regimental tank companies and the companies of the tank battalion must receive the same training. Both must know how to fight the slow, tedious, slugging war of the regimental tanks and the fast-moving, daring attack of the tank battalion which is necessary for the rapid exploitation of regimental and division breakthroughs.

The training of tank crew replacements, both officers and enlisted men, should be the responsibility of the tank battalion commander. He has the staff necessary for adequate planning and supervision of the training. During its first six consecutive months of combat, the 743d Tank Battalion, attached to the 30th Infantry Division, had a total of 623 enlisted and 51 officer casualties out of a T/O strength of 699 enlisted men and 42 officers. Thus, it can be seen that the training of replacements is of great importance and a major undertaking.

Summary

The maximum and most efficient effort by the infantry division tanks in combat will be insured by the following:

1. All unit commanders (tank and infantry) within the division must maintain an imaginative and flexible attitude on tank employment.

2. Logistical support, especially in ammunition, fuel, lubricants, and spare parts, must be efficient and adequate.

3. The regimental and division tank companies must be trained so as to be interchangeable, in order to allow proper rest and rehabilitation of the regimental tank companies.

4. Tank crew members, tank crews, and tank platoons should not be transferred between companies. The tank company, whether it be a regimental tank company or a tank battalion company, must have the feeling of being a permanently constituted unit and not just a replacement company.

5. The regimental tank company should be placed under control of the tank battalion commander for training, maintenance, and rehabilitation when relieved for rest by a company from the division tank battalion.

The Transportation Corps in Support of Field Armies

Colonel N. H. Vissering, *Transportation Corps*

A GREAT deal of misunderstanding and conflict of opinion exists concerning the mission which should be assigned to the Transportation Corps in support of field armies. As the Transportation Corps is a new service, activated 31 July 1942, there was no opportunity to work out doctrines and agreed procedures for its employment prior to the advent of World War II. As a result, transportation was handled differently in every theater, the manner in which it was employed being largely dependent on the personality of the Chief of Transportation in the particular theater and the ideas of G-4 and the Theater Commander.

The factor which probably accounts for the greatest difference of opinion when an organization for handling transportation is being set up in a headquarters is the fact that the movement of troops or supplies involves both General and Special Staff functions. The issuance of movement directives in the name of the Commander is a function of the General Staff after coordination with Special Staff representatives. The actual transportation of the troops or supplies is accomplished by the service charged with this responsibility. In most overseas theaters, these two functions were divided between a Transportation Section of G-4, and the Theater Chief of Transportation.

Many staff officers erroneously assume that they are transportation experts after they have learned a few basic planning factors. In transportation, as in other technical fields, a little knowledge can be dangerous; the wise staff officer checks his factors and plans closely with the technician who is to perform the mission. For example, just because one double-track railroad which was considered in a plan yesterday is capable of delivering 10,000 tons daily, it does not necessarily follow that another double-track railroad which may be under consideration today is capable of delivering the same quantity. The gradients, the condition of rolling stock, and the number and condition of sidings may be entirely different. Any one of these factors could alter the capacity of the railroad materially.

Transportation Advisors

While it is highly essential that movement planners continually check their factors with technicians, this is often difficult in actual practice. The operators are frequently too busy delivering the goods to be available for consultation. This unavailability of technical advice makes it essential that the staff planner be able to advise his commander on transportation problems on the basis of his personal knowledge of the situation and his practical transportation experience. An officer capable of rendering such advice is difficult to find on the average staff. The professional line officer seldom possesses practical transportation experience. He is inclined to measure the distance between two points on a map, assume that a truck will make 25 miles per hour, assume a

load factor of four tons per truck, allow 30 minutes for loading and unloading, adjust these factors to the number of trucks available, and come up with an answer as to the number of tons which can be moved daily. It is difficult for him to comprehend why the operating man cannot perform the miracle which he has outlined on paper. Only after practical experience in operating a number of trucks is he able to appreciate the many other factors which must be considered. Only then is he qualified to approximate the delivery capacity of a number of trucks under varying conditions. The average line officer is even less qualified to deal with the complicated problems which arise in connection with rail or sea movements.

What is the answer? Should movements planners be technical transportation men? Technicians also have their limitations.

In the support of armies in the field, all forms of transportation should be concentrated in one agency, and competent advisors should be available in major headquarters for consultation on all movements

There is no question that professional transportation men brought into the Army from civil life possess more practical know-how on the operation of their particular phase of transportation than the average professional soldier. On the other hand, it is a rarity when a practical truck operator, for example, possesses a working knowledge of rail or sea transport problems. It is still more rare when a civilian transportation expert has a working knowledge of military tactics and logistics. The movements planner should appreciate the "why" as well as the "how" of movement.

The absolute necessity of having well-trained movements advisors, particularly in higher headquarters, is illustrated by the following historic example:

Approximately six weeks before the invasion of France, a small Land Movements Section was organized within the Movement and Transportation Branch, G-4, SHAEF. This small section, composed of both United States and British officers who had had previous transportation and general staff experience, was charged with the responsibility of examining various plans for advance after the landing and of advising the Planning Staff concerning the capabilities of our inland transportation facilities to implement these various plans. Estimates were procured from G-3 on projected phase lines at various dates, the probable number of allied divisions ashore, their probable location, and the type of combat which was anticipated. Based on this information, other logistical planners in the G-4 Division worked out load factors for ammunition, petroleum, oil, lubricants, and other supplies, as well as the probable location where these supplies would be turned over to the armies for movement with their own organizational transportation. From this information, the movement planners were able to determine the approximate ton-miles per day which would have to be delivered by rail or by truck companies assigned to Communications Zone.

The analysis of British capabilities showed that they had sufficient transportation to accomplish their objectives as per schedule, provided that coastal ports were captured reasonably intact. This analysis was remarkably accurate in the light of future events, although for a short period it was necessary to loan trucks to the British for the capture of Antwerp, due

to the late opening of Le Havre and the channel ports.

However, the analysis of the transportation available to support the United States forces, which were scheduled to advance on the outside perimeter of the arc, revealed startling deficiencies. Based on the number of truck companies then included on the troop list and one driver per vehicle, the study showed that the American advance could not be supported beyond a radius approximately 100 miles from the beaches. This information was immediately communicated to G-4 and G-3 of SHAEF. The initial study was checked and rechecked for accuracy. Immediate corrective action was initiated. Ship loads of trucks were hastily loaded from the United States. Those who served in the European Theater of Operations will probably recall how many units, including six Engineer regiments, were converted into additional truck companies and required to provide two drivers per vehicle. Those who were in the United States at the time probably recall how certain units of various types were hastily reorganized into truck companies and how trucks were withdrawn from units then in training. This prompt action enabled the remarkable advances which were made by American troops during the summer of 1944, but we were always short on truck transportation.

The moral of this story is that competent movement experts must be brought in as soon as any plan is envisaged. British movements officers participated in their planning from the beginning. As a result, their force was reasonably well balanced. On the United States side, the Theater Chief of Transportation had in his office experts who were perfectly capable of advising the staff concerning the number of trucks or railroads required to move any given tonnage a given distance. The Theater Chief of Transportation had requested that more truck companies be put on the troop list and that he be given two drivers per vehicle. The officers on the ETOUSA staff, however, were not movements men and were inclined to view these requests as a desire to build an empire. The Theater Chief of Transportation was at that time too far removed from the tactical planning echelons to allow his experts to obtain the basic planning data to support his contentions.

The ideal source of transportation advisors to field commanders is the regular officer complement of the Transportation Corps, if these officers are thoroughly trained in all phases of military transportation, tactics, and over-all logistics during times of peace. Another logical source is the reserve component of the Transportation Corps, if these officers also school themselves in the over-all problem as well as their own speciality.

Organizations Varied

As noted before, various field commanders handled their transportation problems with various types of organizations. In the early days of the war, there was a woeful lack of knowledge of the problems incident to moving supplies for a field army over extended supply lines. Typical problems worked out at the Command and General Staff College and other service schools seldom gave full consideration to complications which arise from heavy military traffic on the roads. During maneuvers, we seldom had a full complement of trucks and we generally assumed that the loads were delivered instead of accomplishing an actual movement of combat supplies. Little or no consideration was given to possible interruptions from enemy aircraft. Our present training programs might well lay more emphasis on this factor, as our heavy movements during World War II were largely made possible by our dominance of the air. This may not be the case in a future conflict.

Many army commanders were reluctant

to include Transportation Corps sections as a part of their headquarters. General Patton, for example, was extremely reluctant to take a Transportation Section with him to North Africa. Later, he was loud in his praises of this particular section and insisted on competent Transportation Corps personnel being assigned to his headquarters for subsequent campaigns. At one time, his Transportation Corps personnel operated their own private railroad forward of the broken lines around Paris until this line could be connected with the main lines to Cherbourg.

Generally speaking, transportation functioned best when the General and Special Staff aspects were closely welded into one organization. The British critiques which followed the evacuation of Dunkirk highlighted many costly failures in movement control and planning. As a result of this lesson, the British staff organization was hastily overhauled and great emphasis placed on this problem. A Movements and Transportation Section was included in all staffs down to and including divisions. These Movements and Transportation Sections performed both General and Special Staff functions. The chief of Movements and Transportation was movements advisor to the commander and participated in all General Staff planning. He also commanded transportation elements (rail and water) assigned to the command. He had under him traffic police who controlled movement on the roads. He did not, however, have command of truck units. This omission caused considerable gaps in subsequent staff planning and made coordination of movement difficult in many cases. Unbiased observers of British and American transportation in Europe generally conceded that American operation was better due to having all forms of surface transportation handled by one agency. The British organization had much in its favor, however, particularly as the British selected the most brilliant officers to serve on their movements staffs. British movements officers were almost invariably specially selected line officers who were given intensive training in movements technique and procedure. These movements officers worked in close relationship with the technical transportation officers, both of whom reported to the chief of Movements and Transportation.

Possibly the ideal staff organization for handling transportation has been evolved by EUCOM headquarters since the end of hostilities. Before Major General Carter B. Magruder became G-4 of the European Theater, the staff organization was more or less conventional, with a Movements Section in G-4, and the Chief of Transportation's office located in another building several blocks away. This organization worked fairly well, as the movements men in G-4 were hand-picked officers with war experience in handling movements problems. This group worked in close harmony with the planning and movements personnel in the Theater Chief of Transportation's office. There was, however, some inevitable friction due to divided responsibility and considerable time-lag in effecting necessary coordination of movements due to the physical location of the two offices. One of General Magruder's first actions was to move the Chief of Transportation's office into the Farben building, immediately adjacent to the G-4 offices. The Movements Section, G-4, was then dissolved, their function being assumed by the Planning and Movements Sections, Office, Chief of Transportation. Under this arrangement, movement directives of a general staff nature are prepared by the Chief of Transportation for authentication by G-4, while directives of a purely technical nature are disseminated by the Chief of Transportation through normal Transportation channels. This type of organization has the following advan-

tages: (a) it effects a substantial saving in staff personnel; (b) it facilitates rapid staff coordination; and (c) it permits simultaneous issuance of directives on urgent movements through both command and technical channels.

It is an old adage that a good craftsman knows how to use his tools. The tools of a military commander are the units which he commands. Most of the potential army commanders of the future are now well informed concerning the characteristics and capabilities of various combat units. Their knowledge of service troops is, however, generally much more limited. It is essential that commanders or staff officers in higher headquarters know the capabilities of their service units if they are to receive the maximum service for their combat troops and still hold down the overhead in service installations. Few officers outside of the Transportation Corps have a knowledge of the capabilities of the Transportation Corps units. Probably least appreciated are the capabilities of a Headquarters and Headquarters Company Transportation, Medium Port (T/O& E 55-120-1, 13 May 1944).

When this table of organization was drawn up, it was designed to provide a service headquarters capable of supporting a field army during a limited advance, say 100 to 150 miles from the coast. This headquarters includes all of the staff sections generally found in a base section. By attaching service units, it is capable of operating staging areas and depots within the port area as well as performing the function of unloading cargo and moving it forward. Vacancies for senior officers were purposely provided in all of the special staff sections and a general officer's vacancy was provided as port commander. Seldom, if ever, was the full potential of this organization utilized in overseas theaters. Almost invariably, one or more service headquarters were interposed between the port and the army which it supported, with a consequent pyramiding of service overhead.

In the spring of 1947, due to the acute shortage of personnel, EUCOM headquarters decided to place the Command of the Bremen enclave under the Bremerhaven Port of Embarkation. The Port Headquarters became responsible for all military activities in the area except military government. For once, the full capabilities of a port headquarters are being utilized. While this is a peacetime application, the functions now being performed are well worth study by officers who may in the future be called upon to organize an overseas expeditionary force.

Conclusions

It is hoped that the reader may gather the following conclusions:

1. It is essential that control of all forms of transportation be concentrated in one agency.

2. Competent movement and transportation advisors are an essential part of any major headquarters and should be consulted by other members of the staff on all plans involving movement of troops or supplies.

3. The regular or reserve officer components of the Transportation Corps are the logical sources to provide such advisors. These officers must be trained in advance to understand all phases of transportation, the general principles of military tactics and logistics, and how to present their ideas clearly and logically to a commander in accordance with recognized staff procedures.

4. Movements planners must look far ahead of a current situation and anticipate requirements before they arise.

5. Fullest use has heretofore not been made of the capabilities of certain Transportation Corps units, particularly Mobile Ports of Embarkation. Fuller utilization of this unit may enable future commanders to reduce their service overhead.

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Military Government Functions in a Division in Combat

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CIVILIAN populations become a problem to military units in the combat zones. In rare instances, battles are fought where no individuals live, but ordinarily there are civilians in the vicinity of every battlefield. There are rural areas with houses scattered here and there, rural villages, or sometimes, as in the case of battles in Germany, there were large cities of varying degrees of destruction and disorganization.

Civilians in front line areas must be controlled. Military necessity requires that civilians be prevented from interfering with military operations. International law makes it an obligation of an invading force to provide government to insure the law and order which the displaced government can no longer provide. National policies of the United States must be enforced on the people in the occupied area.

Prevention of Civilian Interference

The commander of a division engaged in combat with an enemy force has only one immediate objective, that of defeating the force on his immediate front. Civilians in the area can interfere with the activities of a division. The enemy force can cause civilians to become a problem by positive actions of its own. In 1940, the German Army successfully drove French civilians onto the roads. This clogged the roads to such an extent that elements of the French Army could not reach the decisive point of battle. Combat commanders must take action to prevent such interference.

Enemy soldiers of a retreating force frequently conceal themselves among the civil population. Such enemy soldiers can commit sabotage behind the front lines of a division and create a continuous feeling of insecurity in the troops. To prevent harmful actions of such people, a curfew is imposed on the population to prevent circulation at night. Travel restrictions are imposed to prevent harmful circulation at any time. In addition, the population is screened to remove individuals who are potentially dangerous to the combat forces.

Enforcing National Policy

When armies of the United States are in the field, they are charged with enforcing certain national policies. War is not limited to fighting enemy troops alone.

To control civilians in the front line areas and to see that they do not interfere with military operations, the division is provided with a staff section and attached units for military government duties

Hostile civilian activities must be stopped. Hostile persons must be removed from positions of power among the occupied population. Division commanders receive directives which implement these policies. The directives are in the form of specific orders which are to be enforced on the civilian population. National policies are of longer range than military necessity, and immediate action on civilian problems tends to aid the occupying troops in enforcing long-range policies.

Fulfilling International Obligations

When one nation drives the army of an enemy nation from the enemy's sovereign territory, international law requires that the occupying force exercise the functions of civil government for the purpose of restoring and maintaining public order.

International law also requires that an armed force in the territory not that of an enemy must establish military government when the government of the territory is absent or unable to maintain order. If there is a government recognized as the official government of a territory, an agreement is made between the United States government and the territorial government, or between the theater commander and the territorial government. In that case, the policies carried out are those which have been agreed upon with the civilian government. The latter is expected to assume control at a later period. Such an agreement includes a provision to permit combat commanders to take emergency action in any case where drastic measures are needed.

The requirement of international law is that military government must be established in occupied territory, friendly or enemy, when civil government cannot maintain public order. Further activities must be carried on under the principle of military necessity for the prevention of interference by the civilians, or in compliance with the directives implementing national policy. Re-establishment of a city's police force to protect the inhabitants from the criminal element among them fulfills international law. Imposing a curfew to make secure the lives of troops fulfills military necessity. Removing a specified class of people from public office because of an order from our own government carries out national policy.

Operating Procedures

The United States government transmits directives to the theater commander setting forth the national policies which are to be enforced in occupied territory. The military government staff sections of the theater staff prepare specific directives on each problem for the field armies. The sections also prepare policy and procedure for functions which are uniform over all of the armed forces in the theater. The army headquarters, in turn, publishes two types of directives—standing operating procedures for military government, and military government annexes to administrative orders. The standing operating procedures for military government includes detailed instructions on all specific military government functions which must be standardized throughout the area. These standing operating procedures are distributed to all corps, divisions, and military government units which operate in the army area.

For each operation, the army also publishes a military government annex to each administrative order. This annex prescribes the specific actions which may be taken, but which may not be applicable to other operations. The annex is distributed to units in the army service area, to corps commanders, and division commanders.

The corps receives the army standing operating procedures and indorses it to the divisions. Corps uses the army military government annex in writing its own military government annex. Such army

orders as are applicable, and all military government orders of its own are included in the corps annex. The corps military government annex is distributed to division commanders and to the unit commanders in the corps service area.

For any operation, the division has the army standing operating procedures and the corps civil affairs annex, which prescribes the limits within which it performs military government functions. Military government units assigned to communities within the area of the division may be expected to have, and to be familiar with, army standing operating procedures before the units are attached to the division. The division publishes its own military government annex to direct military government operations in each military operation. The military government unit attached to a division has for its direction the army standing operating procedure and the division military government annex concerning the particular operation in which it is taking part.

Functions of Personnel

Who performs the functions of military government in a division? Nearly everyone in the division has some part in these functions, from the division commander to the private in the front line. The part of the private may be only that of conducting himself correctly when he meets civilians.

Two types of military government organizations are present in a division: division military government staff section, and the attached military government units. The particular function of the military government staff section and the military government units is the making of policy for, and the supervision of, civil administration of the area in which the division fights. Civil adminstration includes the activities of the municipal government of the area, activities of other civil government agencies within the area, and any other activities of civilians. In the case of the latter, it may be necessary to assume supervision over the activities of civilians in order to assure success of the military operation, or to carry out directives from higher authority.

The military government staff section of the division is an integral part of the division staff and moves with the division in combat areas. In conformance with directives of higher headquarters, the military government staff section is charged by the division commander with staff responsibility for supervision of civil administration. It interprets instructions from higher headquarters, makes studies of areas to be occupied, makes plans for the military government of the areas to be occupied, and prepares the division military government annexes and military government portions of division administrative orders. The military government staff section also advises other staff sections concerning the civil population and its control, and directs the activities of the military government units attached to the division for the purpose of controlling communities in the area in which the division fights. Appropriate Field Manuals prescribe detailed lists of duties performed by the various staff sections of the division to assist in controlling the civilian population. The general principle is that military government personnel and units are *military* personnel and *military* units, and that the staff sections of the division perform for them the same functions that it performs for all other subordinate units of the division.

G-1 secures personnel, assigns them, and performs all appropriate personnel services.

G-2 furnishes all needed information to the military government staff section which it may have in its possession. It also receives from higher headquarters lists of civilians to be apprehended and imprisoned in each community. Counter-intelligence corps units assigned to the

division arrest such persons and confine them.

G-3 performs the usual operations functions for military government. He assigns troop units to perform special missions, such as guarding essential installations. He prepares instructions to the combat troops on proper relations with civilians.

G-4 supervises the requisitioning, receipt, and distribution of military supplies needed for civilian relief. Military government units distribute such supplies to civilians. G-4 also supervises the distribution to military government units of the supplies for their own use. Mass movements of personnel require transportation, a problem of G-4. When the agencies supervised by G-4 need civilian labor, it is made available to them by the employment service of the military government units.

The division surgeon has an interest in civilian health conditions which may affect the troops. If an epidemic breaks out in the civilian population, it becomes a hazard to the troops. The surgeon may supply medicines and vaccines to prevent epidemics. In division combat operations, badly wounded civilians may have to be evacuated as a morale factor for the troops. In rear areas, such civilians may be cared for in civilian hospitals by civilian personnel. In battle areas, this is hardly practicable. Frequently, civilians may require attention by military surgeons, if there is time for them to be so treated.

The division engineer is interested in keeping roads open and in repairing bridges. Debris must be moved and repair materials found. The engineer can utilize civilian labor and locally available supplies. The military government employment service hires these people and furnishes them to the engineer as he needs them. The employment service also assists in locating supplies.

The signal officer wants the use of local telephone lines for the use of the troops. He wants material to build and maintain new lines. He, too, needs civilian labor for much of the common work that must be done.

The judge advocate general of the division is the legal adviser to the commanding general. He reviews the records of trial of civilians tried before provost courts or military government courts appointed by the division commander. He advises the division commander on the approval or disapproval of the sentences promulgated. He also takes measures to assure that civilian courts do not operate in the area in such a manner as to discriminate against civilians who cooperate with the military forces.

The public information officer, immediately, and the office of psychological warfare, later, want control of radio stations, newspaper plants, motion picture theaters, and other media of information. Such control enables them to influence the attitude of civilians and to disseminate psychological material in later operations.

The military government officer on the division staff surveys the needs of the civilian population for essential supplies and facilities. He makes recommendations to the division commander as to what supplies and facilities must be made available to the civilian population if the purposes of the division are not to be defeated. When all the needs within the division and of the civilians within the area have been considered, the division commander decides what must be furnished to the civilians and what can be requisitioned from them to contribute to the success of the mission.

Military Government Units

During a war, military government personnel in the United States are trained in special service schools. Military government units are furnished to armies as needed. The army assigns each military government unit to a specific community which will need such government services. As a division is about to capture a particular community, the unit which has

been trained for that community or for a similar community is attached to the division. When the community is taken, the military government unit assumes control of its civil government and other civil activities. The unit remains in the area as long as it is needed. The unit remains attached to the division as long as the division area includes the community. When the division rear boundaries are advanced, the military government units pass to corps control.

The military government unit is an operating unit. It supervises the administration of the municipal government, of economic organizations, and of relief measures which are made necessary by military activities in the area. All transactions between the units of the division and the civilian agencies are formalized and coordinated by the military government units. The civilian officials of each municipality get their instructions directly from the members of the units. The division commander, through the military government staff officer, looks to the military government unit for control of the civil population.

Military government units vary in the number of personnel and in the qualifications of their personnel. In Italy and Sicily in World War II, two officers frequently composed a unit. Later, in France and Germany, units of varying strength were used, depending upon the size of the municipality and the complexity and degree of control to be achieved. In the Pacific Theater, various sized units were used. In general, each unit is assigned the personnel deemed necessary to control the particular community in which it is to operate. The latest development in the organization of military government units is the formation of headquarters and administrative units and cellular functional teams. Each team is prepared to carry on one specific military government function. For example, a finance team might be added to a military government platoon for the purpose of operating a district income tax office in the city to which the platoon is assigned.

The degree of control to be exercised by a military government unit over a community influences its method of operation. If disorder is anticipated, rigid control is prescribed. If the population appears to be orderly and willing to comply with instructions, less rigid methods are necessary.

In liberated areas, the local civil governments are normally encouraged to carry on their activities with a minimum of interference. Military government units serve as liaison between the troops and the civilian population. The units assist the local governments in whatever way they can.

In territories where the civil population tends to be hostile, extremely rigid control may be necessary during combat. Since officials of the cities may be presumed to be strongly indoctrinated against the combat troops by the previous government, they may be disqualified from holding office. In such cases, military government units find it necessary to assume direct control of each city, to take over each of the policy making offices, and to apply strong control measures.

Control Measures

What measures are necessary to control a civil population in a battle area? They consist of immediate and emergency measures necessary to assure that the civilian population cannot interfere with the combat effort. In general, they include:

1. Police measures to insure law and order under combat conditions.

a. Proclamations and ordinances are posted to inform the public what is expected of them.

b. A curfew is imposed to prevent the movement of hostile persons at night and to prevent lawless acts.

c. A police force is organized and assigned to duty under the supervision of the military government unit.

d. Provost courts are established to try offenders among the civilians against military personnel and military laws.

e. Known hostile persons are sought out, arrested, and placed in confinement.

2. Measures to obtain from the civilians such supplies and services as are required and can be made available for use of the troops, to include:

a. Hospital facilities.

b. Billeting.

c. Telephone facilities.

d. Engineer supplies.

3. The provision of disaster relief to prevent disease and unrest among civilians which might endanger the troops. This relief includes:

a. Food, clothing, and shelter.

b. Medical relief.

c. Care of refugees.

d. Evacuation of homeless people.

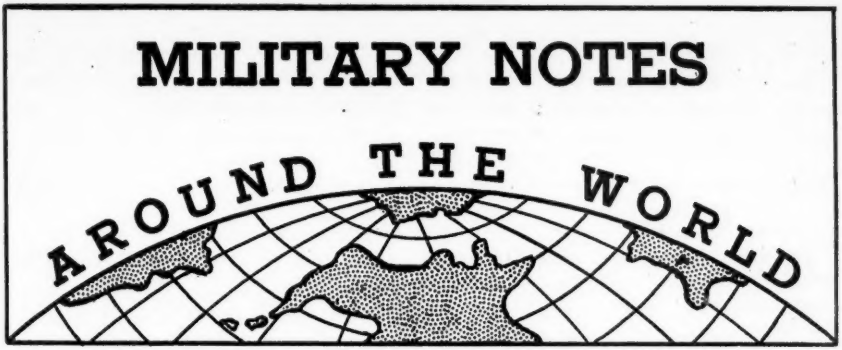
Among other immediate measures may be included the restriction of civilians from traffic routes needed by troops. As a rule, military police units guard and secure these routes. Water must be tested to determine whether it is potable. Bodies of dead persons or animals, which would constitute a health hazard, must be buried. Groups of civilians must be organized to carry out these burials insofar as possible in accordance with the customs of the people. Banks, warehouses, post offices, and essential storage places of supplies, must be closed and sealed to assure that the records and materials will be protected from looting by irresponsible persons. A labor office must be established to hire and process labor which can be used by troop units.

Military government units accomplish these various functions by organizing, deputizing, and supervising civilians. Military government personnel take control of all policy making offices, such as those of the mayor, chief of police, chief of the fire department, city health officer, city engineer, and such other offices as they deem necessary. If the official found in each office is considered trustworthy, he is left in office with his actions subject to supervision. If he can not be trusted, he is removed. A satisfactory person is temporarily appointed and that person is directed to carry out the functions of the office. In some instances in World War II, military government officers actually performed the duties of policy-making officers, but civilians usually can soon be found to perform such functions. Civilians are used to the greatest possible extent, compatible with the military mission, to perform routine and technical missions.

Military Government has been defined as "that form of government which is established and maintained by a belligerent by force of arms over occupied territory and the inhabitants thereof." It operates both before and after the end of organized resistance and sometimes remains in effect until a treaty of peace has been signed and ratified, but is more normally brought to an end as soon as satisfactory conditions have been created.

Major General G. W. R. Templer, Great Britain

MILITARY NOTES



UNITED STATES

Unified Medical Service

The Secretary of Defense .recently issued the following statement:

"The Joint Chiefs of Staff have unanimously recommended that I immediately institute studies and measures designed to establish a single, completely unified, and amalgamated medical service for the support of the Army, the Navy, and the Air Force.

"In accordance with this recommendation, I am asking the Armed Forces Medical Advisory Committee, of which Mr. Charles P. Cooper is Chairman, to undertake the necessary studies as a matter of high priority. In so requesting, I have asked the Committee to consider all alternative means for the organization of the medical services of the Armed Forces and to advise me as to the form of organization which will be most economical in terms of money, medical manpower, and facilities, while at the same time providing the three fighting arms with the medical support which they require.

"Because of the complicated nature of the subject matter, these studies will of necessity take time. However, I am hopeful that they will result in a material reduction in our over-all requirements for medical personnel and facilities."—National Military Establishment.

'Space Ship'

Top secret research on a 10,000 mph "space ship" that might some day be the key to world military domination is being conducted by government scientists.

Military observers say that the craft might be used to break through the earth's gravity screen to become an "earth satellite." It would constitute an outerspace platform, hanging like a tiny moon thousands of miles above the earth, for guiding or launching atomic rockets.

Air Force spokesmen said they could only speculate in regard to the "space ship."

They said the 10,000 mph speed would presumably take the ship to a point where its velocity would counterbalance the earth's gravity pull.

Thereafter, it could either "float" in space—with the earth whirling around below—or turn on power and keep pace with the globe.

Asked how such a craft could carry enough fuel to keep up with the speed of the earth's rotation, these officials suggested that with the thin air and virtual absence of molecular resistance at such a high altitude a single pound of fuel might run the ship for a year.

They said that the ship would obviously have to be large, at least several hundred feet long.—*The New York Times.*

Latest Guided Missile

The US Air Force Chief of Staff recently announced a program to purchase guided missiles and allied equipment to be used in a new training program of Air Force guided missile crews. The President has certified $26,500,000 for this program since last fall.

The latest development in this program is the release of information on the Consolidated-Vultee 774 rocket which is 32 feet long and has a center diameter of

Consolidated-Vultee 774 rocket.—US Air Force photo.

30 inches. It is the first Air Force missile approaching the size of the German V-2. It was successfully fired by Air Force technicians in 1948, and is being considered as an Air Force training missile.

Although outwardly similar in appearance to the German V-2, the 774 incorporates many design improvements, including improved stabilization controls which insure better launching characteristics.—Department of the Air Force.

Restoring Used Equipment

An Army economy program is restoring millions of dollars worth of used items to renewed utilization by a process of classification, reclamation, and repair at installations throughout the United States. The program is being carried out by The Quartermaster General at an average over-all cost of 10 percent of the original value of the items.

In the first nine months of 1948, the latest period for which complete figures are available, a total of 322,075,375 items of all types were returned to service or to stocks through these operations. The items had an original value of $285,147, 887. The equipment included:

1. Clothing, equipage, and general supplies. Some 119,000,000 of these items, having an original value of $247,483,310, were recovered through "classification." This process includes segregation into groups and kinds, inspection as to condition and size, repair, cleaning, and laundering where necessary.

2. Heavy duty mechanical equipment, furniture, office appliances and typewriters, musical instruments, etc. Some 3,000,000 items of this kind, with an original value of $37,664,577, were repaired and restored.

In addition, there was salvage (unusable residue) amounting to slightly less than 10 percent of the total volume of all items handled.

The reclamation process requires that wherever possible used items which cannot be repaired and reissued for their original purposes be utilized for other purposes. This limits worn-out items placed in salvage to those for which no further use can be made within the Army. Rags, which are baled and used throughout the Army, are one example of final use.—Department of the Army.

Target Aircraft

Development details of the US Air Force's newest flying target, the OQ-19A remotely-controlled target plane, were revealed recently by Air Matériel Command headquarters.

The OQ-19A has a speed of 220 miles an hour and weighs approximately 300 pounds. The plane will fly at high speed for 1 hour at sea level without refueling and can be operated anywhere within the line of sight.

Telescopic aids can be utilized for increasing the operating range.

Remotely controlled from either the ground or the air, the OQ-19A is capable of high speed dives, loops, rolls, wing overs, and steep banks. It will simulate the operations of a fighter aircraft.

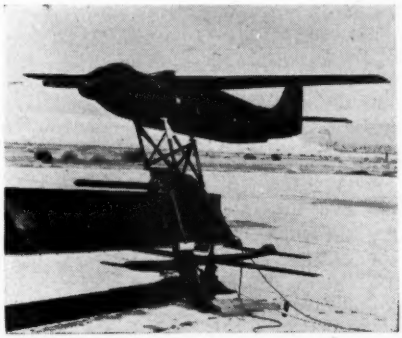
The target plane will be used for aircraft, antiaircraft, and flexible gunnery practice. At a 200-yard range, it has the appearance of a normal-sized fighter plane flying 500 yards away.

A high-wing monoplane, the OQ-19A is powered by a four cylinder air-cooled reciprocating engine which operates on the 2-stroke principle. The 80 pound engine develops 60 horsepower and uses a fuel mixture of gasoline and oil. The maximum fuel capacity is 10 gallons.

The aircraft is launched by a rocket which boosts it along a 60-foot catapult to a speed of 80 miles an hour for takeoff. The rocket car used in the operation is stopped within a 4-foot space at the end of the catapult by a hydraulic snubbing device and can be re-used for successive launchings.

Landing of the OQ-19A is accomplished by a 32-foot diameter cargo-type parachute which can be released by the control operator. It is automatically released by interruption of the radio carrier wave, which would occur if damaged by direct hits or in the event of short circuits in the wiring. Another automatic device releases the parachute the instant the plane lands, thus preventing damage which would result from the target plane being dragged along the ground.

Manufactured by the Radioplane Company, the OQ-19A is approximately 2 feet

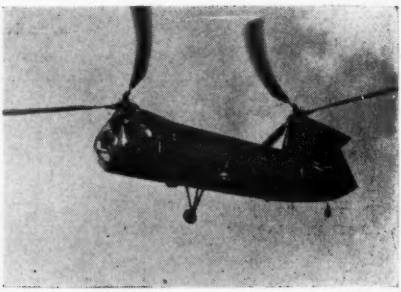


Above, the OQ-19A mounted on a catapult; below, the target plane becoming airborne. —Air Matériel Command photos.

6 inches high, has a 12-foot wing span, and is 10 ½ feet long.

The target will climb 2,400 feet a minute from takeoff at sea level to a service ceiling of 20,000 feet.—Headquarters, Air Matériel Command.

New Helicopter Speed



Above, left, the Piasecki XHJP-1 helicopter is shown with its rotors folded; this makes it more compact for storage. Above, right, the high-speed helicopter in flight.

In trial speed runs, the Navy's new, all-metal Piasecki XHJP-1 utility helicopter made calibrated runs at 131 mph. This mark unofficially surpasses the present world's record of 124 mph for rotary wing aircraft held by the British Fairey "Gyrodyne."

The XHJP-1 also has an unusually fast rate of climb of better than 1,600 feet per minute in forward flight and 1,500 feet per minute vertically. Both climb rates are considerably in excess of marks established by other helicopters.

The helicopter is specifically designed to operate from aircraft carriers, battleships, and cruisers for rescue and other utility uses in fleet operations.—Piasecki Helicopter Corp.

New Plastic Armor

In a future war, United States soldiers may go into battle wearing suits of armor. However, the modern soldier won't be weighted down with metal clothing. The modern version of armorplate will be made of plastic.

The Army has revealed a sample of plastic body armor described as able to stop a .45 caliber revolver slug.

Other of the Army's recent findings and discoveries include:

New lightweight Arctic clothing that gives protection in —55° weather.

A new fabric, "sewed with cement," which permits body vapor to escape, yet keeps the wearer dry from rain and snow.

A fire-proof fabric, a new nylon sock, and a new wool-nylon flag that will outlast all-wool flags three to four times.—*Armed Force.*

'Electric Eyes'

Twenty-five test models of an electronic device, designed to warn the blind of obstacles in their path up to a range of 15 feet, have been developed by the Army Signal Corps.

The models will be turned over to blind veterans of World War II for testing. They weigh 4 pounds and project a beam of light in front of the user. When the light beam is broken by an object in the user's path, warning vibrations are produced.

As the user nears the obstacle, the vibrations speed up. The vibrations either send a warning buzz to an ear attachment or cause the handle on the device to vibrate.

The device is designed principally for warning against stationary or slow-moving objects and is not satisfactory in traffic.—*The New York Times.*

Ram-Jets Tested on F-80

Ram-jet engines mounted on the wing tips of a US Air Force Lockheed F-80 Shooting Star have been undergoing flight tests for the past year.

The ram-jets tested were made by the Marquardt Aircraft Corp. They are of two types, one 7 feet long and 20 inches in diameter, the other 10 feet long and 30 inches in diameter.

A high air speed is necessary to compress the intake air enough for ram-jet engines to operate efficiently, so a "flying test stand" in the form of an F-80 was used. After the F-80 reached the required speed through its standard turbo-jet engine, the ram-jets were ignited. Then the turbo-jet was turned off and the craft was powered by ram-jet alone.

Mechanically simple, ram-jets are merely tubes made of stainless steel, aluminum; and magnesium. Also included is a grid where liquid fuel is mixed with compressed air and burned. The compression is produced by the ram effect resulting from the high speed of the plane. —Department of the Air Force.

F-80 with ram-jet engine mounted on wing tips.—US Air Force photo.

Navy Blimp

The largest, non-rigid blimp in the world will be built for the US Navy by the Goodyear Aircraft Corporation.

The Department of the Navy revealed that a contract has been let for the "N" blimp. It will be nearly twice as large as the blimps used in WW II antisubmarine patrols and will be able to operate on long-range patrols.—*Science News Letter.*

Atomic Training

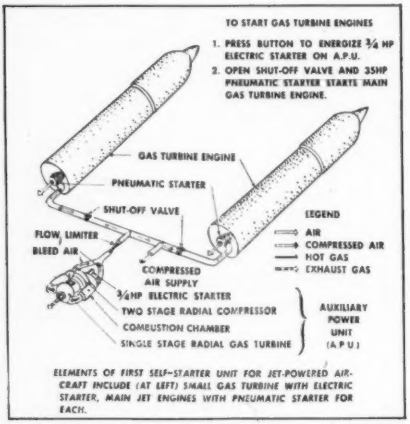
The Atomic Energy Commission plans to train rescue teams that would be rushed to any area hit by an atomic bomb.

The commission manager has revealed that groups of about 100 civilians will be trained in the use of radiation detection devices at Oak Ridge, Tenn., Los Alamos, N. M., and Hanford, Wash.—*The New York Times.*

Jet Self-Starter

The first successful self-starter for jet and turboprop aircraft engines has been developed by the Navy Bureau of Aeronautics and the AiResearch Manufacturing Company.

The new self-starter system eliminates the use of cumbersome storage batteries or other heavy auxiliary power units outside the plane. It utilizes as its major component a newly developed small gas turbine weighing only 88 pounds. Highly compressed air is bled from this turbine to operate a high-speed air turbine starter



ELEMENTS OF FIRST SELF-STARTER UNIT FOR JET-POWERED AIRCRAFT INCLUDE (AT LEFT) SMALL GAS TURBINE WITH ELECTRIC STARTER, MAIN JET ENGINES WITH PNEUMATIC STARTER FOR EACH.

unit, which is attached directly to the jet or turboprop engine.

The new self-starter system also will allow jet or turboprop aircraft to use out-of-the-way bases which are not equipped to start their engines. It requires only a ¾ horsepower motor and one storage battery for its own starting.

The turbine engine which powers the starter also can be utilized for cabin pressurization and air conditioning, for heating and de-icing, and for operating other power-consuming devices.—Department of the Navy.

3,000-Mile Range

New strides in the conquest of space by rockets make it necessary for the United States to have a 3,000-mile proving ground for launching such weapons, Congress was told recently.

Cost of providing such a test area would be $200,000,000.

Military and scientific authorities said that this country would have rockets this year capable of traversing 500 miles. Eventually the horizontal range might be extended to 5,000 miles.

Military officials said the proposed 3,000-mile test course would undoubtedly have its launching site within the continental United States, but they were hesitant about disclosing details.

These officials said that several surveys had been made of the western United States desert for prospective use as both launching and impact areas. One official said the Banana River area of Florida has been considered as a launching site.

The 3,000-mile range would include a launching area, stations along the flight path to track the missiles, and an impact area where the missiles would land.—*The New York Times.*

Special Regulations

The Department of the Army's new Special Regulations (SR's) provide a medium for the publication of "administrative" instructions and directives. Such matter was formerly published in Technical Manuals, Technical Bulletins, Department of the Army Pamphlets, Memoranda and similar publications. Special Regulations also contain detailed administrative procedures and other implementing instructions to basic policies contained in Army Regulations. Future Army Regulations will list only statutory authority, basic policy, and basic regulations.—Department of the Army.

WESTERN EUROPE

Defense Organization

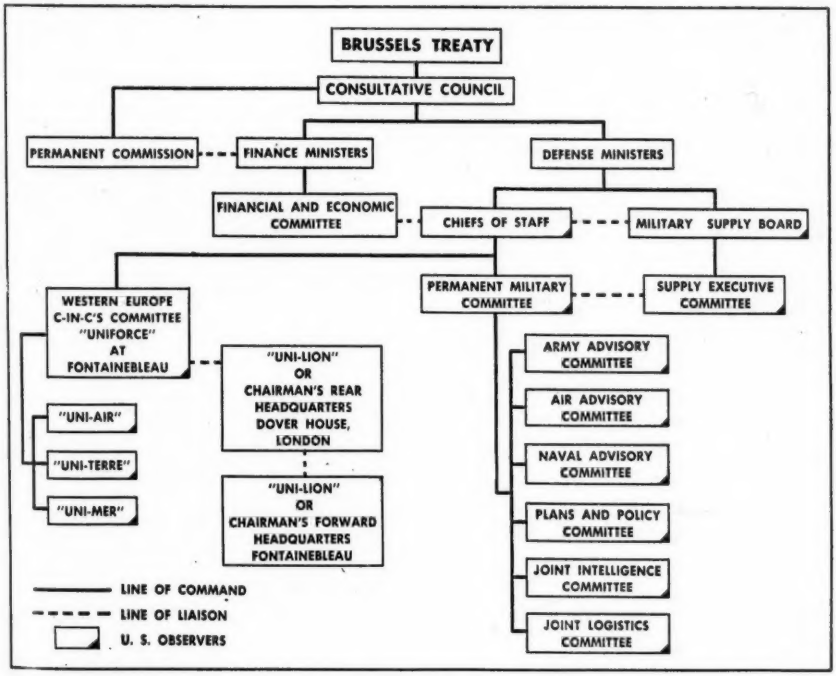
In 1948, five foreign ministers met in Brussels and bound their countries into a 50-year alliance called Western Union (MILITARY REVIEW, January 1949, p. 64). They created a defense organization and ordered their military chiefs to form a combined fighting force.

Now this defense organization is a reality. A fighting force could be raised overnight, with its commanders, its plans, and its supply lines already agreed upon. War in Western Europe tomorrow would find the fighting services of Great Britain, France, Belgium, the Netherlands, and Luxembourg fighting under one plan and under one command.

The United States government has had military observers at all but the highest levels of meetings of the Western Union in London, since last summer, and at Fontainebleau, France, since the beginning of 1949.

The highest organ of the union is the Consultative Council, consisting of the foreign ministers of the five powers. Subsidiary to it, but still in the political plane, are the defense ministers, the finance ministers, and the Permanent Commission, which is the executive organ of the Consultative Council.

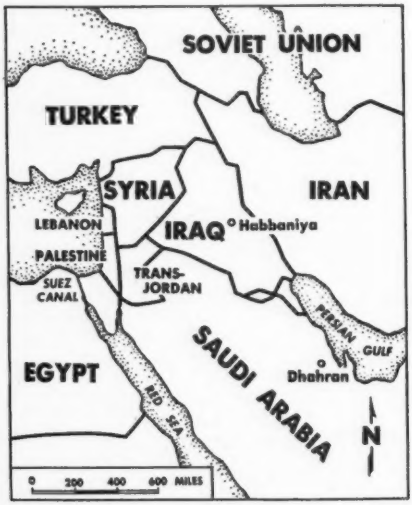
On the top military level, there are three groups: the Chiefs of Staff, the Military Supply Board, and the Financial and Economic Committee.—*The New York Times*



SAUDI ARABIA

Air Base Agreement

The United States and Saudi Arabia have completed negotiations which give the US Air Force certain limited rights



for continued use of the Army-built Dhahran air field on the Persian Gulf. (MILITARY REVIEW, February 1949, p. 63.)

The field is regarded as one of the most favorably placed in the Middle East. The landing strips are capable of handling B-29 planes, and are considered as probably adequate for the new B-36, the world's biggest bomber.

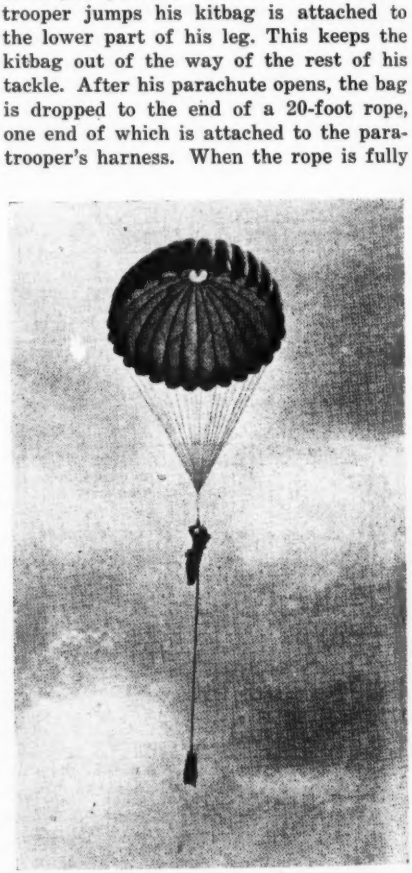
The air field was built by US Army engineers as a base on the redeployment route between Europe and the Far East. It also served as a link on the North African air transport supply line.

Dhahran's strategic position is not solely geographical in terms of air power. The base can be supplied by local fuel sources and it is within trucking and barge-transport distance of two ports open to ocean shipping.—*The New York Times.*

CANADA

Dropping Paratrooper's Equipment

Ordinarily, a paratrooper is cluttered up with a great amount of equipment during a jump. A new method now being developed provides that when a paratrooper jumps his kitbag is attached to the lower part of his leg. This keeps the kitbag out of the way of the rest of his tackle. After his parachute opens, the bag is dropped to the end of a 20-foot rope, one end of which is attached to the paratrooper's harness. When the rope is fully



Equipment suspended below paratrooper.

outstretched, it receives a jerk, and is liable to snap. A shock-absorber or snatch-eliminator is used to reduce the jerk.—*Canadian Army Journal.*

GREAT BRITAIN

New Radar Device

British aircraft manufacturers are making provisions in new planes for inclusion of an ingenious new radar device.

Known as Cloud and Collision Warning Radar Equipment, the device is designed primarily for detection of cumulo-nimbus clouds. It may also be used for detecting high ground in the path of the aircraft, for indicating presence of other planes in the vicinity, and for use as a navigational aid. The new radar system is installed in the nose of the plane.—*American Helicopter.*

Bomb Disposal

Great Britain is still working at the disposal of bombs dropped during World War II. The 3,000-pound German bomb shown here was dropped seven years ago.

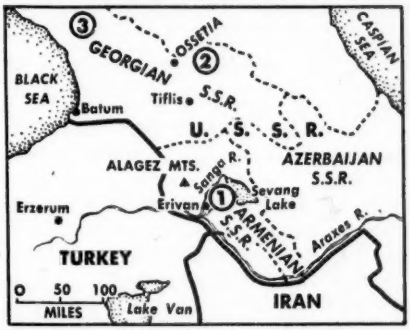
After digging for three weeks, the bomb disposal squad uncovered the bomb and removed the fuze. The bomb was then

hoisted from the shaft and hauled away to be broken up. The operation required only 90 minutes after the defuzing took place.—*The Illustrated London News.*

USSR

Underground Atomic Plant

According to a recent report, the Russian Deputy Premier, who is believed to be chairman of the Soviet Union's



The Soviet Union is reported to have set up a large underground factory on the Sanga River north of Erivan (1) to process uranium. Deposits of uranium are said to have been discovered in the area of Ossetia (2) and in the northwestern part of the Georgian Soviet Republic (3).

atomic energy commission, has established a large underground factory to produce fissionable materials from uranium. The factory is on the Sanga River a few miles north of Erivan, capital of Armenia.

Six large subterranean caverns have been scooped out of the hillsides between 12 and 32 miles north of Erivan in the Sanga Valley near the villages of Kanakiri, Akhti, Gimush and Sanchigay. Approximately 500,000 cubic meters of hard rock had to be blasted and removed from the basalt massif on the eastern shore of the Sanga to make space for the plant.

Furthermore, it is reported, the bulk of uranium ore concentrate being shipped from Saxony (in the Soviet occupation zone of Germany) and the Jachymov (Joachimstal) region of Czechoslovakia is sent on to this Transcaucasian experimental center.—*The New York Times.*

AUSTRALIA

Defense Plans

Under the spur of unsettled world conditions and the fear of a resurgence of Japanese strength, Australia is pushing ahead with an active defense program. Announcement that the new Snowy River hydro-electric power stations would be built underground to protect them from possible bombing in a future war was seen by home and overseas commentators as a further step in national preparedness.

The main points in Australia's defense program are: a five year plan of organization costing $800,000,000; building of a rocket range; development of uranium deposits; expansion of heavy industry; and concentration on scientific developments. The government is continuing the control of mica for another year because of the importance of mica in defense.—*Australian Weekly Review.*

INDIA

Territorial Army

A plan to form a territorial army of 130,000 men as a second line of defense to the Indian Army was announced recently.

The territorial army will be a volunteer organization primarily intended to afford opportunity to young Indians to receive military training.

The Defense Ministry statement said that the territorial army would be comprised of all types of units now found in the regular army, and would be open to all able-bodied citizens between the ages of 18 and 35, without distinction as to caste or creed.

In peacetime, the volunteer organization will be responsible for antiaircraft and coastal defense. During a national emergency, it will relieve the regular army of its internal commitments.—*The New York Times.*

MEXICO

Strategic Highway

About 37 miles of the Transisthmian Highway have been completed. The highway will cut across Mexico's Isthmus of Tehuantepec from Coatzacoalcos on the Gulf of Mexico to Salina Cruz on the Pacific. Two million dollars has been appropriated for further work this year. Both from a military standpoint and from that of transportation, this 185-mile road is extremely important. After its completion, cargo can be transported quickly from ships at one end to ships at the other. The trip around Central America through the Panama Canal will be avoided. The highway will be paved and will cost about $16,500,000.—*Bulletin of the Pan American Union.*

VENEZUELA

Development of Iron Ore

Venezuelans are watching with increasing interest the development of their country's rich deposits of iron ore. Concessions have been granted to both the Bethlehem Steel Company and the United States Steel Corporation.

The most important iron deposits are along the banks of the Caroni River, near the mouth of the Orinoco. The Iron Mines Company of Venezuela, a subsidiary of the Bethlehem Steel Company, has been installing equipment to exploit 19 concessions that it has south of the town of San Felix on the Orinoco. The ore in this area is 60 percent iron. Commercial production will be under way by the end of 1949.

The Oliver Iron Mining Company, a subsidiary of United States Steel, has six concessions covering 74,100 acres in the same area.

Both companies plan to ship the mineral out via the Orinoco River. There is a possibility that this river will be dredged so that large ships may enter.—*Bulletin of the Pan American Union.*

The Evacuation of Palestine

Digested by the MILITARY REVIEW from an article by Lieutenant General G. H. A. MacMillan in the "Journal of the Royal United Service Institution" (Great Britain) November 1948.

ON 1 September 1947, the United Nations Special Committee on Palestine issued their report and from that moment a new phase in the military problem in Palestine started. As soon as the partition plan recommended by this committee was announced, the Jews became hysterically jubilant. The Arabs at first were stunned with disbelief that such a solution as was recommended could be possible, involving as it did the gift to the Jews of such large areas of purely Arab population.

Thenceforth, the local situation deteriorated rapidly. Disorders started with attacks by Arabs on the consulates of the powers which had voted against them and the Irgum Zvai Leumi (IZL) extremists and Stern Gang soon renewed their murderous vendetta against British soldiers and police. These attacks had diminished appreciably during the course of the committee's deliberations.

As soon as the British government had decided that British troops would all be withdrawn from Palestine by 1 August 1948, plans for our departure, based on the commander's appreciation of the situation, were drawn up by the Commander in Chief, Middle East Land Forces. They were confirmed after consultation with the High Commissioner during the first week in November 1947. It is of interest to note that the plan as formulated at this meeting was carried out almost in exact detail, and that the Palestine government was in agreement and in step with the Army throughout up to the end of the mandate and their departure on 15 May 1948.

The Problem

The problem with which we were confronted was the evacuation of some 70,000 service personnel, 5,000 police and civilian officials, 260,000 tons of stores, plus unit equipment and unit stores of considerable proportions. Since the Army would remain responsible for law and order throughout the country until the end of the mandate, no large scale evacuation of fighting troops could take place before May 1948. It was therefore necessary that the Army should remain in the country for a period after the end of the mandate before total evacuation could be completed.

No one route—e.g., rail to Egypt, road

to Egypt, or sea from Haifa—could by itself handle all this load of personnel and stores in the time available even if, as seemed very unlikely, they all remained uninterrupted. It was therefore clear that very careful planning would be needed and all available means of movement and transport would have to be employed to the full.

So long as law and order had to be maintained throughout the whole country, it was essential to keep adequate forces in the neighborhood of Jerusalem, Tel Aviv, Haifa, and Eastern Galilee, the sources of potential trouble. In addition, the road and rail routes to the south had to be kept open as long as they would be wanted. Jerusalem, dependent as it is on water from the plains and on tortuous communications through the hills by which supplies of oil for power and light have to be conveyed, was militarily an unsound position to hold or to evacuate at the last possible moment. However, it was politically essential to remain there, since the government functions were centralized in Jerusalem and the government could not have carried on elsewhere.

Granted that these four main areas had to be held until the end of the mandate, the first decision to be made was whether the final post-mandate evacuation should be southwards to Egypt or northwards through Haifa. The latter was clearly the answer. It would have been militarily unsound to depend for the final evacuation on long land communications in areas where Arabs and Jews might be fighting. Furthermore, a large amount of our valuable stores were already in installations in Haifa and their early move southward would block all other movements. The units in the south, in any case, were due to move out first in accordance with the arrangements for the over-all reduction of the army, quite irrespective of the Palestine situation. Those to leave last were to be the 1st Infantry Division, for whom accommodation in their re-deployment areas had still to be prepared. The 1st Guards Brigade was to be the last of all to go.

The Plan, as drawn up and carried out, was therefore drafted to secure an orderly withdrawal in four clear-cut phases:

Phase 1—The evacuation of Gaza and the south by 29 February 1948, less those troops required to keep open communications with Egypt.

Phase 2—The evacuation of Jerusalem and the hill country of Samaria.

Phase 3—The evacuation of Galilee and the coastal strip and the concentration of the remaining forces in Haifa.

Phase 4—The evacuation of Haifa.

To insure that the plan should run as required, four essentials were necessary:

1. Road and rail communications and the port of Haifa had to be maintained in full working order for as long as possible.

2. There must be no serious clashes between the British troops and either Arabs or Jews.

3. The Civil Administration had to be supported to the maximum possible extent all over Palestine until the end of the mandate.

4. No additional military commitments, from which the troops could not be freed at short notice, could be undertaken.

We were fortunate to be able to maintain these essentials in spite of many irritating and unexpected situations. As far as the railways were concerned, we kept them running for a month longer than anticipated in spite of several acts of sabotage. Although on several occasions we were forced to inflict severe casualties on Arabs and Jews when our vital interests were endangered, no widespread conflict with either community ever materialized. The district commissioners in every district in Palestine continued to function, although to a diminishing extent as time

went on, right up to the end of the mandate. And, finally, although at times the British forces were dispersed in many detachments all over the country and were extended to the limit of their powers as an effective military medium, the whole operation was carried through between dawn on 14 May and 1930 on 15 May 1948.

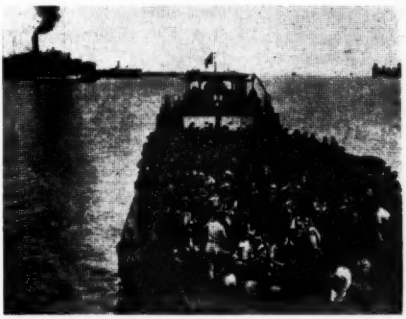
Evacuation Period

The following is a brief summary of the problems which confronted the various military commanders in Palestine during this evacuation period.

In the north, the 6th Airborne Division faced two completely different situations, namely, that of preserving peace on the frontiers of Galilee and of keeping Haifa itself in running order. Matters in Galilee remained fairly quiet until late in December 1947, when Jewish attacks on Arab villages commenced. Up to then, it had been possible to use the Trans-Jordan Frontier Force to keep order in the Huleh area. With the threat of attack by Syrian co-religionists from over the border to avenge these Jewish assaults and by Arab insurgents who had collected in the Safad area, this force had, in all fairness, to be relieved by British troops. A composite brigade, comprising the Irish Guards, 1st Parachute Battalion, and 17th/21st Lancers under the command of the Commander, Royal Artillery, 6th Airborne Division, was therefore organized and took their place.

In Haifa, both communities were spoiling for a fight which eventually took place on 21 April. After heavy fighting, which lasted 36 hours, the British commander was able to organize a truce. British troops during this fighting came under heavy fire from both sides and sustained casualties, but on its conclusion they were of immense assistance in getting the town running again and in evacuating Arab refugees. All areas vital to our evacuation program were safeguarded throughout the fighting.

In Central Palestine, the 1st Infantry Division had as their main problems the preservation of order between Tel Aviv and Jaffa and the keeping open of the roads vital to our subsequent evacuation. They also provided the escorts for the prevention of looting on all trains running between Haifa and Jerusalem and between Haifa and Rafah. This proved a serious strain on their manpower. After the departure of the Independent 61st Infantry Brigade (motorized), which had



British troops being ferried to a transport at Haifa during the evacuation of Palestine.—*The Illustrated London News* photo.

looked after the extensive Gaza District, the 1st King's Royal Rifle Corps was left behind under command of 1st Infantry Division to maintain our communications with Egypt. This unit did exceptionally fine work in keeping open the roads on which there were constant fights between Arabs and Jewish convoys proceeding to the isolated settlement in the Negev and near Beersheba.

The most serious event which occurred in the 1st Infantry Division area was the attack by the IZL on Jaffa on 12 April, when it was necessary for the British Army to intervene in strength.

The whole of the 3d Infantry Brigade was deployed. Demonstrations and an air strike were carried out by the RAF, and two destroyers and a cruiser of the Royal Navy were called to lie off Tel Aviv in support. The unprovoked Jewish attack on the Arabs was completely broken, largely by the effective use of the tanks of the 4th/7th Dragoon Guards and the armored cars of the Life Guards, together with the artillery of a battery of 41 Field Regiment. These operations resulted in an immediate appeal for a truce by the Jews, which was at once ordered and enforced by Major General Murray, the Divisional Commander. Our casualties were one NCO killed and five other ranks wounded. The casualties inflicted on the Jews are known to have been severe.

In Jerusalem, the 2d Infantry Brigade of the 1st Infantry Division, acting independently, was faced throughout the evacuation period with the difficult task of keeping the rival parties from breaking out into active warfare. This they accomplished by holding key positions in the city between the two combatants, often immediately contigious with both. Sporadic shooting occurred almost nightly in Qatamon, in the Yemen Moshe Quarter, and at Sheikh Jarrah. But it was not until the Jews attacked the Arabs and occupied Sheikh Jarrah on 24 April, thereby threatening our lines of withdrawal through Ramallah, that the brigade commander had to take serious military action. Two battalions and one troop of tanks were deployed and cleared the area, inflicting casualties on Jewish extremists without loss to our own troops.

As a result of the serious situation which threatened to develop in Jaffa, the Commander in Chief sent reinforcements, comprising one infantry battalion, one armored regiment and two Royal Marine Commandos, to Palestine from other Mediterranean stations. These troops were very welcome, as the already diminishing garrison was deployed fully. In the process of operations, it had been necessary to weaken the protective arrangements on the vital routes of evacuation between Jerusalem, Ramallah, and Latrun and in the vicinity of Lydda and Ramleh. The arrival of these reinforcements caused speculation in many quarters as to whether the British occupation of Palestine was going to be extended. Due mainly to the efficient handling of the situation by the 1st Infantry Division, the reinforcements were not called upon to take any active part in the Jaffa operations. After the end of the mandate, they were among the first troops to be evacuated from Palestine without hindrance to our planned withdrawal program. Their availability at a difficult moment was a valuable contribution to the success of the actual withdrawal on 15 May, when the mandate ended.

After the departure of the High Commissioner, the area occupied by the troops was placed under the military command of the General Officer Commanding, who governed by proclamation. He was assisted by a small staff of very able senior government officials who remained with him until his final departure. Five hundred Palestine police also remained for police tasks in the Haifa enclave, under the direct command of the General Officer Commanding.

During this period, the policy announced to the people of Haifa was that the General Officer Commanding intended:

1. To insure the security of his forces.

2. To achieve the rapid and orderly evacuation of his forces.

3. To see that, within the area under his control, the normal life of a peaceful and law-abiding community could be carried on for the benefit of all races and creeds living therein.

No incidents occurred. The shipping program was fulfilled according to plan and the withdrawal of troops and stores

was carried out so effectively that our final departure took place on 30 June, one month before the date anticipated originally.

To insure that nothing untoward should occur in the final phase of our operations, the 1st Guards Brigade, with the troops under their command, carried out their final withdrawal on 30 June in a series of bounds. The troops were covered by the RAF and the Royal Navy. The whole force embarked in the morning in four merchant ships, six LSTs, one hospital ship, and some "Z" craft, the General Officer Commanding and his personal staff being already established on board HMS *Phoebe*.

Evacuation Complete

At 1130, the General Officer Commanding went ashore and the Commander 1st Guards Brigade took leave and embarked. The troops of the 40th Royal Marine Commando then covered the final stage of the departure from HMS *Striker*.

At 1240, the General Officer Commanding descended the Port Office steps, the last British soldier to leave Palestine, while a salute of 15 guns was fired by HMS *Phoebe*.

Thus, with dignity, with precision, without incident, and entirely according to plan, ended 30 years of British occupation and of British labors for Palestine.

The Changed Meaning of Neutrality

Translated and digested by the MILITARY REVIEW from an article in "Ny Militär Tidskrift" (Sweden) No. 11, 1948.

IT is evident that the Scandinavian nations view the matter of neutrality in different ways. It is logical, therefore, that one should ask what the differences of opinion are and whether the differences can be ironed out in Scandinavian defense talks. On our ability to find a common denominator for Scandinavian foreign policies rests the matter of whether necessary Scandinavian defense collaboration shall be real and effective.

Not so long ago, we were united in pursuing a course of absolute neutrality. In 1914, three monarchs and three national leaders met to declare unity on a strict Nordic neutrality policy by individual states. On that occasion, such a policy was successful.

In 1939, the same principle prevailed. Four national chiefs and four national leaders participated. But this time there was failure. Neutrality was again on a basis of individual states and there was great insistence on making it clear to one another that solidarity of Nordic neutrality was definitely not intended. Back of the facade of official unity was a fundamental, hidden flaw. On one side stood Finland and Sweden. In spite of their shortcomings in preparations for defense, they were determined to let neutrality also be a defense of national independence and civil freedom. On the other hand, the Danish administration, as subsequent events revealed, did not regard neutrality as anything more than a symbol. Halfway between these positions stood Norway, so far detached that its department of foreign affairs hardly considered it necessary to actively defend the nation's neutrality. The Norwegian policy of neutrality also differed in one other respect from that of the other countries; the "inner circle" was satisfied that Norway, under no circumstances, could end up on the "wrong side." The fact that

the Norwegian foreign minister, in the face of German preparations for attack, concentrated his attention and that of his colleagues on a British neutrality violation, was due to his short-sighted attention to detail. This prevented him from seeing that the crucial moment was at hand.

There is no need to dwell on the results. None of the four governments succeeded entirely in maintaining its neutrality during World War II. Sweden's three neighbors suffered armed attacks, and Sweden was subjected to pressure which led to substantial concessions as long as pressure was maintained. When this pressure ended, we ceased to follow strict neutrality. For example, the equipping and arming of Norwegian and Danish forces in Sweden indicates that we could have been designated as non-belligerent during the last 2 years of World War II, but not as neutral. The same may be said of our attitude during the Finnish winter war, in spite of the declaration of Swedish neutrality.

It may be well to ponder all these various shades of Nordic neutrality today. It may also be well to consider the causes of such difference. Thus, one is able to examine in detail the different attitudes, assumptions, and circumstances. A few obvious circumstances were decisive in the collapse, or failure, of the old policy of neutrality.

At the start of World War II, differences between the various states had also developed into antagonisms between their political systems. Respect for international law had been pushed aside in both Eastern and Central Europe by a struggle for power which was hardly concealed. Before and during World War II, it was demonstrated that a declaration of neutrality without an effective defense was worthless. Symbolical neutrality, as imagined by the Danes and some Norwegians, was of no use if a nation were attacked.

After World War II, there were further developments in the same direction. Two world powers now stand opposed to one another. One has subjugated satellites at its disposal and the other is voluntarily supported by a strong group of greater or lesser powers. In any new conflict, there is no prospect that a strong and respected neutral group of states can exist alongside the belligerent powers. At the same time, technical and political developments have created a situation where small nations, or small national groups similar to the Nordic group, are too small to maintain a defense for any length of time against a great power. In other words, national integrity cannot be maintained without help; it cannot exist without solidarity.

Under existing conditions, it is natural that a declaration of absolute neutrality has a different meaning than during the Russo-Japanese War, for example. At that time, a declaration of neutrality probably meant that a nation could remain on the outside as a disinterested bystander. In the present situation, however, a strict policy of neutrality actually means that the state declaring such neutrality leaves to other powers the decision as to the side on which it shall fight, quite regardless of where the state's own interests lie.

Sweden has already abandoned such a senseless policy. The country's officials and the representatives of the large political parties have let it be known on what side our sympathies lie. No uncertainty exists on the fact that Sweden, as well as Norway and Denmark, under no circumstances, will permit themselves to be forced by the action of others to fight on opposite sides.

In other words, our policy for the present means this: we should prefer to be left in peace, but if we cannot be left in peace, we have already chosen our side. It can also be expressed in this manner: we desire to have help from the West if

we are attacked from the East, and we desire and hope that the West will not force us into a conflict.

At the same time, our stand on the matter of help from the West should be clarified. We know that Sweden and our neighboring states are dependent on such help if we are attacked. We also are aware that this help will come more quickly, and will be more effective, if planned for in advance and if we have prepared ourselves to receive it. Tradition, and a natural tendency not to assume unnecessarily a defiant attitude toward anyone, make it natural for us to regard even the preparation for such cooperation as preparation for the renunciation of Swedish and Nordic neutrality. That we do not consider the opposite situation and desire help from the East if we are attacked from the West is based on two circumstances which are obvious. One is that we have no grounds for thinking or believing that the western powers will encroach on our freedom or seize possession of portions of our territory. The other reason is that, up to the present time, help from the East for all nations that have been helped has meant loss of both national and individual freedom, as well as national and individual possessions; bargaining for help from the East opens the way for interference.

As a matter of fact, we are not choosing a new position, but we are placed in a new situation and are forced to face the consequences. In a changing world, there is simply no place for an immutable policy of neutrality.

If one does not stubbornly reject developments that have already occurred and which are still taking place, then there are no serious differences among the peoples of Sweden, Norway, and Denmark on the common foreign policy for Scandinavian cooperation. If those in the West can be convinced that a cooperating Scandinavia will stand fast under all circumstances and with all its power against enemy attack from the East, then the necessary basis for defense preparedness will be won. It must not be forgotten that the matter of a united Europe is increasingly important and that we must get ready to assume our position in this matter.

It is true that objections can be raised that there is little difference between a "directed" neutrality policy, as sketched above, and a policy of direct alliance. To this, we can only answer that there is a growing outside pressure beyond our control which has brought the concepts closer to one another. If this pressure later leads not only to Scandinavian defense cooperation and a common foreign policy, as well as to preparations in time of peace for western support in time of war, the fact remains that our aim is only freedom and peace for ourselves and for all other like-minded nations in this area of natural unity.

June 1949

Unfortunately, war cannot be prevented without risk to those who would combat aggression. However, the danger of war through an incident is far more remote than the danger of war might be if we were to sit passively by and let events take their course.

General Omar N. Bradley

The Winter Battle of Rzhev

Translated and digested by the MILITARY REVIEW from a German source in "Allgemeine Schweizerische Militär Zeitschrift" (Switzerland) July 1948.

THE Russian Twenty-ninth and Thirty-ninth Armies, which had broken through the German front west of Rzhev early in January 1942, came under a strong German winter attack for 4 weeks after 21 January 1942. At that time, most of the Twenty-ninth and portions of the Thirty-ninth Armies were annihilated.

The Russian plan was to break out of the anchor position at Rzhev, to penetrate to the rear of the German Ninth Army toward a main highway, and to encircle the German central front with the help of other forces advancing from the south. The German counterattack defeated the Russian plans.

The Russian Breakthrough

After the exhausting withdrawal battles waged by the German Ninth Army from the Kalinin line to the Gshatsk-Rzhev line, the closely pursuing Russians redoubled their efforts to shatter the German front. Their first objective was the city of Rzhev. Its fall would have meant the collapse of the Gshatsk-Rzhev position, which Hitler had ordered to be held at all costs.

After the unsuccessful frontal attack against the front northeast of Rzhev (VI Army Corps), the Russians regrouped and launched a major attack on 4 January. Possessing considerable numerical superiority, they attacked the 256th Infantry Division (XXIII Army Corps) in a southward push west of Rzhev. The purpose of this attack was to take the city by encircling it from the southwest. This attack created a deep breakthrough in the German front and separated the XXIII Army Corps from the remainder of the front. The German situation was serious. For the first time in the Eastern campaign, the Germans were fighting for their lives.

On 5 January, a gap 15 kilometers wide had been opened between the left wing of the 256th Infantry Division (now VI Army Corps) and the right wing of the 206th Infantry Division (XXIII Army Corps). Through it the Red divisions were rapidly pouring southward. The Red advance pushed across the Volga, in spite of the opposition of the VIII Air Corps. By evening, the Russian advance guard point was already 8 kilometers west and south of Rzhev.

The situation could only be saved by a counterattack. The first objective was to ward off the immediate threat to Rzhev; the second, to close the gap in the front and prevent more powerful Russian forces from pouring through. A hastily organized attack by four weak battalions of the VI Army Corps westward along the highway in the direction of Moledo Tud began on 6 January. A supplementary attack was launched eastward by the *Fegelein SS-Brigade*, which had been brought up in forced marches from the west. Both attacks were initially successful but doomed to failure because the Russian forces had already become too strong.

Fortunately, from the German viewpoint, the Russians now wasted their strength in scattered attacks. It became possible for the Germans to reinforce the hastily organized Rzhev front. The *Luftwaffe*, despite snow and bitter cold, did everything possible to keep the enemy from exploiting his first successes. In addition, the march battalions arriving at Orsha and Smolensk were sent forward by air transport to Rzhev and additional reinforcements were flown in daily. The Russians, however, continued their rein-

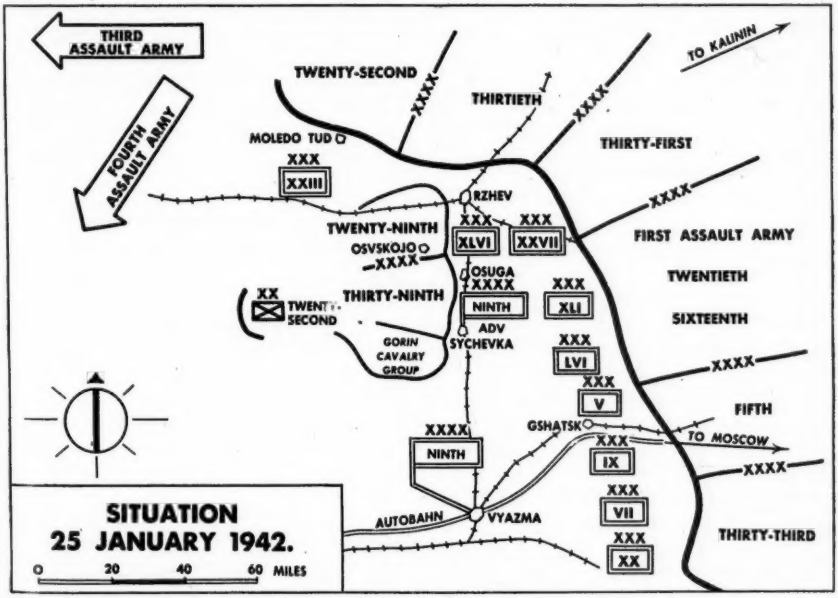
forcement of the breakthrough, shoving the main mass of their divisions into the gap behind the Thirty-ninth Army.

The German High Command was able, at first, to counter these measures only by pulling one regiment from each of the two infantry divisions (86th and 129th). Deep snow drifts hindered the Germans in these movements, while the Russians were equipped for such conditions. In addition, another cold wave moved into the area on 8 January, greatly increasing the daily casualties due to freezing. On 9 January, the Russians launched their attack against the left wing of the isolated XXIII Army Corps and threatened to sweep over the extended German front. Stronger attacks against the right wing of the VI Army Corps indicated that a major attack on Rzhev was imminent.

The Germans realized that the situation could be saved only by an attack to close the gap. On 10 January, the commander in chief announced to the army group that the earliest he would be able to conduct the attack westward from the Rzhev area would be 15 January. He planned to use the 1st Armored Division (not yet disengaged) and two infantry regiments.

The situation rapidly became worse. On 11 January, a strong Russian group lay 20 kilometers northwest of Sychevka, where it threatened the vital Sychevka-Rzhev railway line and the traffic and supply center of Sychevka. The 1st Armored Division, while on the way to Rzhev, was diverted to Sychevka. After a night march, it arrived there just as the Russians were fighting for the railway station and supply depots. The Division, together with the *SS-Division Reich*, which was brought up later, succeeded in clearing the Sychevka area, thus insuring the movement of supplies both by highway and railway to Rzhev.

To the west and southwest of Rzhev, a



varied collection of German troops repelled all Russian attacks on Rzhev and the railway line as far south as the Osuga station. The German forces included the following: the Linding Group, made up of supply and construction troops; a few units from the VI Army Corps; troop units which had been newly brought up, including some from the *Luftwaffe* combat formation, the VIII Air Corps; the Danhauser Group; and the 2d Battalion of the 4th AA Artillery Regiment, whose improvised "Armored Antiaircraft Train" proved to be of great assistance.

Numerous breaks in the railway line by Russian assault troops caused a great deal of trouble but railway engineers were able to make rapid repairs. On the northern and northeastern fronts at Rzhev, many stubborn attacks had to be repulsed during these crucial days, especially in the sector of the outnumbered 6th Infantry Division.

Closing the Gap

Only after considerable delay was the concentration completed for the attack to close the gap. The Russian offensive, the cold, and the snow repeatedly delayed preparations, especially the arrival of the new units. The Russians, meanwhile, poured stronger forces onto the autohighway and enjoyed operational freedom. Worst of all, XXIII Army Corps was isolated and only scantily supplied by air.

The attack to close the gap was set for 21 January. On that day, with the temperature at 45 degrees below zero, the Sychevka group (1st Armored Division, the *SS-Division Reich*, the 309th Infantry Regiment, and the 3d Armored Regiment) started northwest with Osvskojo as its objective. The mission was to reduce the width of the breakthrough corridor and to attack the flank of the strong Russian group southwest of Rzhev. The commander in chief did not feel that he could assume responsibility for postponing the attack, despite the terrible cold.

On 22 January, the VI Army Corps and the group which had been formed west of Rzhev for the main effort began the main attack, heading northwest along the two large highways. The objective was to contact the assault group of the XXIII Army Corps, which was advancing eastward, and to cut off the two Russian armies from their rear echelons.

At 1245 on 23 January, the attack points of the VI and XXIII Army Corps joined forces in spite of stubborn Russian resistance. Thus, the two "Russian highways" which led across the Volga at Nikolskoe and north of Szolomino were blocked. This was a decisive step toward rescuing the XXIII Army Corps and cutting off the Russian armies which had made the breakthrough.

Formation of the Pocket

After bridging the gap, it was necessary to make a short halt to bring up reinforcements and to replenish the supplies of the exhausted XXIII Army Corps. The Russian strength, the vast terrain, and the small forces used in the attacks prevented the rapid annihilation of the Russian forces which had been cut off. At the same time, the Russian supply situation could be expected to become worse.

Reinforcing and widening the "bridge" was accomplished during the following days without undue Russian resistance. The expected attacks did not occur. The German thrusts evidently had occurred at the right moment. The main body of the Twenty-ninth and Thirty-ninth Armies had passed through the gap and there were no unengaged forces available to the Russians either north or south of the bridge.

On 26 January, the Russians began their great attack against the northern front of the VI Army Corps (125th Infantry Division). By the following day, the attack had spread to the right wing of XXIII Army Corps with the objective of break-

ing through the "bridge." Supported by armored forces and aviation, the attacks reached their maximum intensity during the period 28 to 30 January and several times resulted in dangerous penetrations. They were finally halted only by a supreme effort of the German forces.

The great quantity of ammunition used at this time and the suspension of railway movements because of the cold brought about a serious supply crisis. The crisis became more acute when the Russians reached the auto-highway west of Vyazma and frequently blocked it. However, intercepted radio messages revealed Russian shortages of motor fuel and food, although they were receiving ammunition in considerable quantities by air transport at night.

The 256th and 206th Infantry Divisions were able to hold the bridge. In this defense, the VIII Air Corps, whose fighter, combat, and reconnaissance formations risked action even in the worst weather, played a large part.

In the meantime, on 25 January, the XLVI Armored Corps assumed command over the Sychevka group, which had marched in the direction of Osvskojo. On 27 January, the Corps assumed command over the 86th Infantry Division, which had been protecting the stretch of railway between Rzhev and the Osuga railway station. Then, on 28 January, the Corps moved forward with the mission of annihilating the group of Russian forces southwest of Rzhev. Beginning 2 February, those portions of the VI and XXIII Army Corps which were on the pocket front again joined in the attack and crowded the numerically superior Russians together.

By 3 February, the results of these encircling operations were becoming apparent. Air reconnaissance showed large-scale east-west movements by the Russians in the large area west of the Sychevka-Osvskojo line. They were obviously attempting to escape encirclement. At the same time, Russian resistance declined in front of the 1st Armored and the 86th Infantry Divisions. The German commander in chief immediately gave the order for vigorous pursuit by all available forces. Only on the southwest Rzhev front did a strong Russian group still continue to hold. When this was encircled and annihilated, the fighting was halted.

On 4 February, the 86th Infantry Division took the Russian key-position at Osvskojo and 24 hours later the 1st Armored Division and the *Fegelein SS-Brigade*, which was pushing its way toward the former, joined forces in Chertolino. The ring around the strong Russian group southwest of Rzhev was closed.

The "Pocket" Battle

The main body of the Twenty-ninth and portions of the Thirty-ninth Red Armies were enclosed in the pocket and doomed. On the evening of 5 February, the German command ordered the annihilation of the surrounded Russians. After this, the main burden of the attack fell to the XLVI Armored Corps, while the VI and XXIII Army Corps had the task of holding the walls of the pocket. But any hope that the encircled Russians could be knocked out in a few days proved deceptive. The Russians recognized their hazardous situation and doubled their attacks on the north front of the VI Army Corps (256th Infantry Division) and later on the XXIII Army Corps (206th Infantry Division). During the period 6 to 9 February, the tension over the entire Rzhev front reached a crisis. The Russians, effectively supported by tanks, artillery, and aviation, pounded against the German forces which had been engaged in heavy fighting for weeks. Time and again the Russians broke through, but they were always thrown back. Villages were lost and retaken. Entire units sacrificed themselves in the defense while inflicting heavy losses on the Russians. But the front held.

The German commander in chief was on the field of battle daily and often intervened in the fighting. He reinforced the artillery of the threatened 256th Infantry Division and placed a battery from the XXVII Army Corps, as well as additional portions of the *SS-Division Reich*, into the sector where the Russian penetration had been made. Defense of the "bridge" and the holding of the pocket front remained the first consideration.

The attacks to narrow the pocket were pushed slowly. Not till 9 February, when the west side of the pocket was forced, did they lead to success. During the succeeding days, the fighting both outside and inside the pocket increased in violence. While the massed attacks on the northern front continued, the attack formations on the pocket front progressed step by step. The difficulties at the pocket were great. The Russians had firmly established themselves in the bunker system of the old Volga position and still received sufficient ammunition by air. The Germans were forced to work their way against these bunkers through snow that was more than 3 feet deep. Severe individual, night, and close combat tactics were required to crack the strong points one by one. There were few heavy weapons, as they were needed on the threatened front to the north.

Crowded together more and more, the Russians fought with great determination. Even the most enticing handbills, dropped into the pocket in great numbers, were ineffective in persuading the Russians to surrender. Russian forces west of the pocket attempted to break into the pocket area by repeated mass attacks from the southwest. Each time they suffered heavy losses.

The climax of the pocket battle came on 17 February. While the German forces on the inner pocket front succeeded in capturing the last inhabited places from the Russians, the Russians made a last desperate effort on the north front to break through the "bridge" and rescue their encircled divisions. In massed attacks that surpassed all previous efforts, they hurled great quantities of artillery and aviation against the exhausted Germans. They launched a concentrated attack with the remainder of their armored forces, sending wave after wave of infantry behind the tanks. Six of the tanks broke through and pushed far to the south but the infantry which followed was stopped. The situation became extremely critical. It seemed as if the German successes which had been won at the cost of great effort and sacrifice were to be lost at the last moment.

The German army group had already issued an order to halt the attack on the pocket and to send a large part of the forces engaged there to the northern front. The Russian tanks had already made their way into the rear of the 1st Armored Division, which was fighting with its front toward the pocket. But the tanks were stopped at that point, five of them destroyed by artillery fire. Thus, the greatest danger which had threatened was removed.

On 18 and 19 February, there were other critical hours, since the Russians in the pocket were making a desperate attempt to break out to the north and to the south. These efforts failed, however, because of the opposition offered by the German forces and the watchfulness of the *Luftwaffe*. In the north, the Russian attacks against the old penetration point ceased. The weakened Russians could make only ineffectual attacks on the 26th Infantry Division. On 20 February, the winter battle of Rzhev came to an end. It was a turning point in the winter fighting on the Eastern Front.

Geography and Modern Strategy

Translated and digested by the MILITARY REVIEW from an article by Colonel Goutard in "Informations Militaires" (France) Nos. 111 and 112, 1948.

Geography and Military Forces

It is obvious that a favorable geographical situation is not, in itself, a decisive element in warfare. Geography cannot compensate for a too marked inferiority in military forces. A favorable geographical situation only provides the belligerent that possesses it with an additional advantage. But this advantage increases the effectiveness of his forces by insuring him strategic superiority. From the tactical as well as the strategic point of view, a geographical advantage which is not exploited because of lack of sufficient forces is useless. It has a negative value only, and soon falls into the hands of the enemy.

For instance, Germany possessed a great geographical advantage in 1940 because she had seized the coasts along the Straits of Dover, the English Channel, and the Atlantic. But the advantage could not be exploited for invasion of England. It is now known that Hitler did not use this strategic advantage because he did not have the equipment necessary to move his armies across the channel.

On the other hand, these same Belgian and French coasts by 1944 had lost their value as a potential jumping-off place for operations against England and were now just a threatened rampart. England was now the jumping-off place. This transformation was due to the considerable change in ratio of forces resulting from the entry of the United States and Russia into the war, to the development of Allied aviation, and to the radical change in the geographical situation.

In 1940, it was England that was threatened from the northern tip of Norway to Brest. In 1944, without anything having been changed on the French coast, it was Hitler's "Fortress Europe" which was threatened from every side.

Surface

The surface of the earth has always presented difficult problems to military commands. One of the most important of these problems has been the crossing of large expanses. Both time and distance are elements of the problem.

Another problem is the occupation of the earth's surface. Occupation of an area may be so costly that it paralyzes military operations.

The earth's surface also limits the efficiency of modern weapons, particularly aerial weapons, because it permits dispersion.

An associated problem, the difficulty of completely dominating an area, has been cited as a serious obstacle to the complete efficiency of strategic aviation.

Distance is the first obstacle of land and water surfaces. But even the conquerors of antiquity, limited by the legs of their infantry and the feet of their horses, were not stopped by the obstacle of distance.

Time, the second obstacle, has likewise been largely overcome.

In the face of technical progress, therefore, the difficulties presented by the earth's surface tend to diminish as distance and time are rendered less important.

Global surface presents another important difficulty for strategic aviation operating over enemy territory. This difficulty is dispersion, but it is not insurmountable. In fact, it is possible to effect a considerable reduction in the effects of dispersion by a combination of the following:

1. An intelligence service which can locate objectives which are scattered over a vast territory.

2. The accuracy of aerial bombs or guided projectiles.

3. The increased power of bombing attacks.

4. Considerable increase, as a result of atomic development, of the area of destruction of each projectile.

Here, again, science reduces the effectiveness of the obstacle.

From this brief examination of the problems of the earth's surface, we are able to conclude that it defeats only those who permit themselves to be defeated. The perfection of modern weapons tends to increase the effective domination of surface obstacles.

Insularity

We are all aware of the important role that insularity has played in the defense of man down through the ages.

The most remarkable example of this protection is England. We have seen the effectiveness of the narrow channel which once again saved her from invasion in 1940. But the destruction of the cities of England in bombing attacks shows to what an extent this insularity has disappeared. In the years to come, the employment of atomic bombs and large airborne units will further diminish British insularity, even to the point where it may no longer exist.

In the present state of affairs, only an ocean constitutes a sufficient obstacle to give a country a certain degree of insularity. The United States, between two oceans, may be regarded as possessing insularity of this character. Such insularity is not absolute, however.

We are quite aware that modern bombing planes and self-propelled aerial weapons are easily able to cross oceans and spread devastation in surprise attacks.

Supersonic radio-controlled weapons would be particularly effective. However, very long-range radio control across an ocean is as yet impossible, and will continue to be very inaccurate. As for automatic control by radar, sound, magnetic, or heat waves, lack of selectivity almost excludes their utilization at long ranges.

From the point of view of defense, the protection of a threatened country cannot be organized with any chance of success except with the aid of bases situated on the far sides of oceans. Only from such bases would it be possible to detect, jam, or intercept the flight of atomic or other missiles approaching at supersonic speeds.

Since the best anti-atomic defense is the atomic attack of the adversary's industrial bases and launching ramps, it follows from the reasons stated above that such a defense cannot be organized except from advanced bases.

Lastly, from the naval and air-naval point of view, possession of these advanced bases insures almost positive control of the protective oceans.

For these reasons, a continent such as America must have a certain number of bases on the far side of its adjacent oceans in order to retain the advantage of insularity.

Only in this way can the United States hope to maintain a cushion of time to avoid surprise and to insure immediate retaliation.

If we glance at a map, we preceive that this condition is attained in the pacific area by the occupation or availability of bases in Japan, the Philippines, and the ocean islands. In the Atlantic, it may be attained by Allied or friendly bases on the European and African coasts.

In an east-west direction, the United States and a large part of the British Empire still retain their insular characteristic. They cannot be reached except by sea and a large-scale operation which first involves conquest of the sea and the air.

We shall see later what the situation is in the Arctic region.

Geographic Envelopment

Since antiquity, military strategists have been aware of the advantages of the enveloping attack. Because of limited forces, however, they have not been able to go beyond the tactical stage.

But the development of modern weapons, signal communication, and the airplane has widened the field of strategy to permit the conduct of operations over great distances.

In this field, aviation is becoming more and more the most important strategic arm.

Enveloping a position insures three principal advantages. It permits cutting the enemy's vital lines of communications; it forces the enemy to disperse his detection and defense efforts in all directions; and it makes it possible to attack the greater part, if not all, of his forces or territory.

At the present time, with prodigious increases in radius of action of bombing aviation and pilotless guided missiles, this last possibility would be a serious menace to any country which was geographically enveloped.

It is evident that if an envelopment can be realized by a power before the opening of hostilities, such envelopment will theoretically permit it to deliver a surprise blow on its adversary and attain an initial advantage which may be decisive.

For this reason, the struggle for geographical envelopment of a potential enemy, or the struggle to escape from such envelopment, has been carried on since the advent of peace. Simultaneously there has been a struggle for atomic superiority.

The Arctic: New Strategic Zone

Up to recent years, no one thought that the Arctic zone would or could be regarded as an important strategic zone. A mysterious and hostile region, a place of extreme meteorological conditions, it was believed to be only a place of scientific curiosity.

Two geographical conditions lend particular importance to this new strategic area. It is bordered almost exclusively by America and Russia; and it constitutes the shortest route from the heart of the United States to the heart of the USSR, and vice versa.

Russia borders the Arctic Ocean over a distance of 170 degrees, and the United States and Canada over a distance of 110 degrees. This new situation binds together the United States and Canada more closely than ever, Canada having need of the forces of the United States for insuring the Arctic defense.

In consequence of their Arctic frontiers, the Russians and Americans now find themselves face to face on either side of the polar cap.

In December 1945, General Carl Spaatz, then Chief of Staff of the United States Air Force, wrote that a four-motored plane, taking off from the extreme north, was able to cross over the pole and attack an industrial center on the other side of the world. A trans-Arctic war was now possible, he said, and probable in the future.

Excluding the Bering Strait, where the distance is only 80 kilometers, the Russian and American Arctic regions are only 2,500 kilometers apart over the ice cap.

The northern continental coast of Eurasia, and the sea route which follows it, is less than 3,500 kilometers from Grant Land in Northern Canada. In the Atlantic zone, New York is 6,500 kilometers from Berlin over the ocean, but the bases in Greenland are within 3,000 kilometers of Berlin and 4,000 kilometers of Moscow.

Inversely, possession of these bases by the Russians would place Soviet aviation only 2,500 kilometers from Ottawa and 3,500 kilometers from Washington. In the Pacific zone, the American bases in Alaska are only 3,250 kilometers from

Yakutsk and 4,800 kilometers from Vladivostok.

One clearly sees what possibilities this geographical situation gives to planes with a flying range of 10,000 kilometers, and how greatly the insularity of the American and Eurasian continents has been reduced. Moreover, this Arctic route is not only the shortest but the least guarded. Hence, it is the safest. Consequently, it insures the maximum surprise effect at present.

The Arctic Threat

Before studying the active strategic position of the Arctic powers, it is well to glance first at their passive geographical situation, i.e., their vulnerability.

On the Russian side, the Soviets possess the advantage (or potential advantage) of more effective exploitation of terrain and dispersion. On the other hand, the industrial centers of European Russia and Siberia are farther to the north than those of the American Continent. Therefore, they are more exposed to air attacks from the Arctic zone.

Leningrad is in nearly the same latitude as the northern point of Labrador; Magnitogorsk, of Edmonton; and Moscow, of central Labrador.

This disadvantage is still further aggravated by the fact that the land surfaces extend much farther northward in the American Hemisphere.

The United States, therefore, enjoys an inverse geographical advantage. Although its industrial centers, located farther south, possess deeper cover, they are more vulnerable, since they are more concentrated.

The New York-Chicago-Philadelphia area, with its enormous human and industrial concentration, would be especially vulnerable to the effects of aerial projectiles of great destructive radius.

The Position of the Americas

From the active point of view (offensive and defensive), the American position is favorable.

The United States and Canada have on their northern front two large natural bastions, one facing Asia, the other facing Europe. Each dominates the northern portion of an ocean. These two essential springboards are: in the North Pacific, the Alaska-Aleutian area; in the North Atlantic, Greenland.

The Greenland bastion is extended by Iceland, whose location, only 850 kilometers from England, is still more favorable.

The strategic situation of Iceland is of such importance that it seems destined, in case of conflict, to be an important objective. It could be seized only by a group of maritime powers.

Between these two bastions, the Canadians have the large base of Port Churchill, which is covered on the north by the two "Crystal" bases on Baffin Island. Port Churchill is connected by railroad the year around with Winnipeg and its rail connections to the east, west, and south.

For the northern defense of the continent, an "American-Canadian Defense Committee," has been formed. Its first task has been the standardization of equipment and the common use of military resources. This committee was formed especially to carry out the military organization of the extreme northern territories.

We might add that Northern Canada possesses the second greatest deposit of uranium in the world.

The Russian Position

Geographically, the Russian Arctic position appears less favorable.

As regard bastions, Russia possesses an advanced base (Chukotsk-Anadyr-Kuriles) in the east, corresponding to the American Alaska-Aleutians base. But she has nothing equivalent to Greenland in the west.

It would be necessary for Russia, therefore, to gain possession of the coasts of Norway and Spitzbergen, as a minimum requirement. This would increase the depth of her defense, insure her the Barents Sea, and provide her with a springboard in the direction of England and Greenland. A request for permission to establish a permanent military base in Spitzbergen for the common defense of Eurasia was presented to Norway in 1946.

Between these advances on the east and the west, Russia's efforts have long been directed toward the development of the great sea route which stretches along the northern shores of Eurasia. She has covered this route by the occupation of the Franz Josef, Lenin, New Siberian, and Wrangel Islands.

This sea route serves Russia as a northern east-west route between Murmansk and Vladivostok by way of the Bering Sea. It is reinforced by an air line and connected with the territory by a series of north-south air, highway, and railway lines now under construction. These are progressively replacing the traditional, seasonal routes along the Ob, Yenisei, Lena, and other rivers.

The large base at Yakutsk is well known, due to use of the line which joined it with Fairbanks. But mystery reigns over the system as a whole.

We may be certain, however, that the basic strategic Arctic structure is being actively pushed. Russia possesses definite superiority in the polar domain.

Polar institutes, and Arctic naval and air schools, have long been training cadres and specialists at Leningrad. The ground, naval, and air forces have at their disposal many trained Siberian personnel.

America enjoys the advantage in the Arctic zone of better positions. These initial geographical advantages, however, can be overcome by superior forces and by appropriate strategic dispositions.

Conclusions

In all ages, the world has been prey to the passion for domination, the great motivating force behind empires and other political systems. Such domination takes four forms:

1. Military domination by force of arms.
2. Economic domination by money and credit.
3. Spiritual and ideological domination by the force of ideas.
4. Scientific domination by modern weapons.

During the present period, we have noted the superiority of the American position. This great country enjoys the advantage of a definite lead in the field of atomic warfare, a tried and tested spirit of organization, economic and financial power, and a democratic ideology perfectly suited to its people.

Russia, concentrating her forces and her national resources with energy, finds herself in a dilemma. She must either overcome her technical lag and meet the demands made on her by her defective geographical situation, or she must renounce or amend her own ideology and open herself to outside conceptions.

We may rest assured (unless the two great rival nations should establish mutual faith in one another) that while America is improving her technical assets, Russia will devote all her efforts to improving her strategic position.

Geographical urgency first compels Russia to extend and consolidate her cover on the west. It is easy, in the light of recent events, to see the manner in which this objective can be attained little by little by making use of local ideological sympathies.

The Soviet Union cannot disregard the South European countries, which possess great strategic importance. Her clamoring for total evacuation of Greece and Italy by the Anglo-Saxons, in order that their diplomatic action might be limited,

is well known. The situation is the same in the east on the Korean peninsula.

The Nordic regions bordering the Arctic Ocean are also the subject of Russian attention. After the negotiations relative to bases in Norway and Spitzbergen, there were discussions at Helsinki on the Soviet proposal of a Russo-Finnish pact. We have observed the emotions provoked in other countries by this proposal.

The French Army and Its Future

Digested by the MILITARY REVIEW from an article by Cyril Falls in "The Illustrated London News" (Great Britain) 23 October 1948.

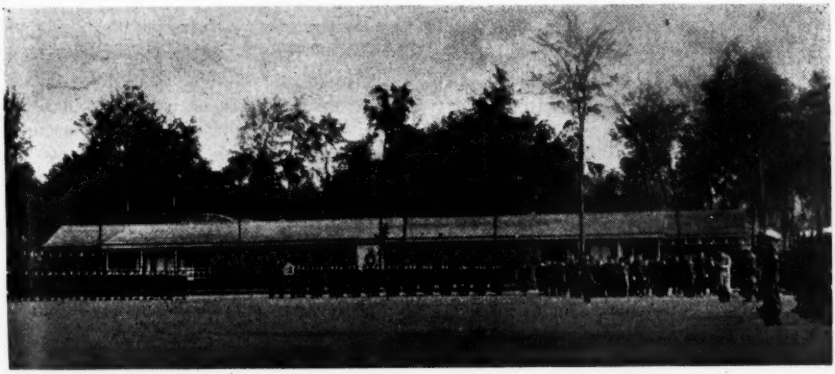
NEVER in modern times, until the 1940s of this century, have we known a Europe in which there was not a powerful France. The defeat of France in 1940 entailed the disintegration of her armed forces, and they have not yet been brought back to anything approaching their former numerical strength. Various factors have contributed to render this impossible: political difficulties, financial handicaps, and delays in restarting war industries. But the chief factor has been inherent in the Continental system of conscription. The big conscript army of the French type is a product of a number of national contingents. It calls to the colors on mobilization several annual classes, the members of which have done their training and returned to civil life. During the German occupation, these classes ceased to be trained. There existed little in the way of human material to form a mobilized army except the class which was called up in 1946. Progress has been made in the meantime, because three contingents have now been called up, but reserves on the old scale still do not exist.

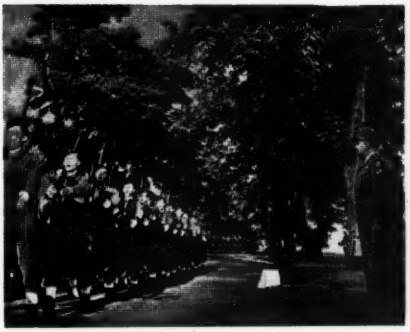
The method of training devised by General de Lattre de Tassigny after the war was brilliantly imaginative. The period of service was limited to 1 year, which was all that the country could afford. The age of the call-up was 20 years. General de Lattre decided, and persuaded his political chiefs to agree, that this young generation should not undergo its training in the old town and city barracks. It should be taken out into open country and into the open air. He therefore set about the construction of a chain of "*camps légers*," each of which was to hold a force of about a battalion in strength. The training was to be for moral and physical regeneration as well as military instruction. The recruits should live continually in contact with fresh air, sun, and water. He believed that the essential qualities of French youth—intelligence, generosity of spirit, and suppleness in adaptation still remained alive below the surface. His training methods stress honor, enthusiasm, *esprit de corps*, cleanliness, physical fitness, interest in mechanism, easy but firm discipline, and friendly relations among all ranks.

From what I saw of the training methods last summer, I am convinced that General de Lattre has achieved a triumph. I believe that the first 6 months' training of the French Army today is the best in the world and that good results have already been attained. Beyond that, I cannot speak with personal knowledge. I have heard that the more advanced schools are also of a high standard and I have a particularly good report on the school of officers for the Regular Army. This school has left its historic quarters at Saint-Cyr and moved to Brittany, near Rennes.

But all this is only the foundation. What

of the structure to be built upon it? The results in staffed, organized, and equipped divisions have so far been disappointing. Perhaps some British and American observers expected too much. As I have already pointed out, it is not possible to form a big conscript army from scratch, because it depends for its mobilized strength on previously trained contingents. These have not existed. Even now, there are only two trained groups, those of 1946 and 1947. There has also been a shortage of experienced officers.





According to this British writer, the "first 6-months' training of the French Army today is the best in the world." Top, a parade at a training camp near Paris. Lower left, an obstacle course used to develop endurance. Lower right, General de Lattre observing a column of reserve officers at a camp near Le Mans.

Now, however, developments are to be expected. It has been stated on good authority in the United States that some 6 months ago the French government applied to that country for assistance in

equipping 10 new divisions. The present strength of the French Army in divisions, so far as I know, has not been announced. It is no secret, however, that 10 divisions would provide a very substantial and much-needed reinforcement to the Army.

As I said in a former article, I regard the strengthening of the French Army as the most pressing need of Western Union at the moment. The gap created by its weakness, in both the physical and spiritual sense, renders the whole structure unbalanced. The other continental nations of Western Union are small, and it will be a considerable time before the British Territorial Army finds itself capable of taking part in major operations. It would be a waste of superlative training if this were not to result in the formation of a well-organized and well-equipped army to fill the existing void. In every sense, Western Union has need of a strong France.

Some doubts have been expressed on both sides of the Atlantic about the reliability of the French Army, in view of the wide influence of communism in the trade unions and in the cities. It is true that the number (of Communists) called up for the Army under universal service must be roughly proportionate to the communist strength in the country. But all military training and discipline, and especially that of the type now in force in France, furnish unfavorable soil for the growth of communism. I should estimate that this is unlikely to prove a serious factor in the active forces, though it might well be more dangerous if the reservists were called up in an emergency.

The most powerful ally of French communism is the cost of living, above all, the cost of food in relation to wages. Communism will assuredly decline if the rise of prices is checked; it will certainly continue to exist in great strength if prices go up. That is a political and economic question, not a military one. In any case, the risk is one which must be accepted. Western Europe and the world in general have to face far greater risks than this today. Those responsible for French military training have done their utmost to inspire the young men with a sound patriotism that transcends party lines. If they have failed, then no methods could succeed.

The outside observer is always liable to error in assessing the spirit of a nation's armed forces. From what I have seen, I think it reasonable to suppose that the leaven of good feeling will suffice to permeate the whole. Some weaknesses would doubtless appear on mobilization. Perhaps there might be some disorders. But on the whole, I should say that far greater dangers lay in French financial stringency, in the uncertainty of all French governments formed since the war, and in the bitterness of party strife. The United States itself is partly responsible for another danger: a feeling in France that the country might be sacrificed, in the event of war, as an outpost zone which would not be held in strength. American statements that a stand in Europe could be made only "behind the Pyrenees" have contributed to this impression. No country could be counted upon to accept with enthusiasm the sort of role which seems to be allotted to France in strategy of this kind. Firm assurance of American support and reinforcement would serve as a tonic to French spirits, and aid in the equipment of the new divisions would be the most convincing foretaste of this. It would show that the United States was prepared to assume a stake in the country.

If the Western Union is to be a bulwark in the cause of peace and strong enough to defend itself in war, it needs to settle upon a plan of action which will make the fullest use of all its resources. Chief among these is the new French Army. In other words, this plan must aim at securing the integrity of France and of her Continental

allies. Nothing less will give her a motive to undertake the task which she alone can accomplish. Western Union itself would be deprived of object and meaning if it had no prospect of preserving the territories of the nations which compose it. Western Union, with American aid, can shape a plan and form a force which would be capable of maintaining itself on the Rhine. At the present moment, it might be impossible to count upon maintaining the line of the Rhine, but this is not a situation which need continue.

The makers of the new French Army are starting upon a difficult task. Many critics hold that they have been slow about it and have wasted valuable time. But much of the work that has already been accomplished has been of the highest quality, and it may be that it was the wisest course to devote all energies to this instead of building up a chain of weak and ill-equipped divisions. However that may be, it is clear that the time has come for further action. The higher organization must now be established. In this stage, France merits all the encouragement and assistance that can be given to her. It is to the interest of her friends that she should receive such support. Unless she can fill the gap in Western Europe by creating a strong, confident, and well-grounded army, the purpose of Western Union will have been frustrated.

Communism in Southeast Asia

Digested by the MILITARY REVIEW from an article in "The Army Quarterly" (Great Britain) October 1948.

RECENTLY the pace of communism in Southeast Asia has quickened perceptibly, especially in Burma and Malaya. In these two countries, communism is fighting an open war. Elsewhere, covert activity and organization has been increasing to an almost equal extent, so much so that individual communist parties are obviously preparing to follow a militant policy as soon as opportunity allows.

It is clear that the average so-called communist in the East is unaware of the meaning of the creed that he follows. But with the leaders and officials of the respective parties it is a different matter. These men have been thoroughly indoctrinated, have studied all aspects of communism, and in many cases have been trained in the Soviet or in satellite states. They are capable of taking advantage of the postwar vacuum in the Far East to spread their net, using the "anti-colonial" theme wherever possible.

The focal points of Southeast Asia, Singapore and the Federation of Malaya, are the most important areas under communist threat. If the present insurrection in these countries can be suppressed firmly and quickly, there is a chance that the forward march of communism can be halted in this part of the world. In order that the extent of the danger can be realized, its development in each country will be described separately.

Malaya

The Malayan Communist Party (MCP) started to prepare its campaign during the Japanese occupation. It was able to develop its military section, the Malaya Anti-Japanese Army (MPAJA), with Allied "special force" assistance. It should be noted that the Allies, although treated with deference, were never allowed any voice in the control and organization of the movement. During this period, the MCP was planning to take over the government at the end of the war, and it was with bitter feelings that it watched landing of strong British forces on VJ-day. Foiled thus, the party concentrated

on building up its organization, influencing labor, and gaining youth support. When it was found that this policy brought it little success, the leaders went out for more ambitious plans. At this stage, they changed from passive to militant activity. With few exceptions, the MCP is composed of Chinese adherents who get no support from the Malays.

The insurrection started in June 1948 and aimed at disrupting the economy of the country and neutralizing the forces of law and order. It began with the assassination of planters and Chinese Kuo-mintang (KMT) contractors and attacks on police stations. The scale of action increased to a point where bodies of 40 to 50 insurgents mounted large scale attacks on plantations throughout the Federation. The reaction on the part of the government was quick. It included the passing of emergency laws, the enrolling of special constables for estate protection, the outlawing of the MCP, and military and air offensive action against the insurgents in their jungle camps and training areas.

After 3 months, the economy of the country was virtually unimpaired. Labor strikes were non-existent and the insurgents had been checked in many areas of the Federation. On the other hand, they were still capable of carrying out attacks on isolated plantations and of continuing their assassination policy. The news that reinforcements were being sent to the Federation was welcome. This measure freed more troops for offensive operations as opposed to static guard duties. The major factor in the extermination of the insurgents was information on their movement and location, from the Malays, Indians, and KMT Chinese throughout the country. As the campaign progressed, information improved, thus resulting in successes for the government forces. Nevertheless, there are still many areas where the local inhabitants suffer from intimidation or fear of the communists. As long as this is so, the enemy will be able to operate, train, and organize in comparative safety. When the expansion of the police forces is completed and their influence spreads, it is hoped that confidence will be restored and the supply of information will be adequate to enable the army and police to ferret out all concentrations and keep the enemy on the move. The campaign may be long and the problems for the police and military will be extensive. However, the build-up of government forces is becoming more evident daily. It is hoped that this factor will produce a feeling of frustration, demoralize the insurgents, and deter them from continuing their present campaign.

Burma

The communist insurrection has been in progress in Burma for a long time and presents the government with both political and military problems. It became evident in July that a crisis was at hand when the head of the government was forced to grant concessions to placate the dissident left-wing element of the military section of the party, the PYA. This section has remained aloof from the straightforward communists in the country. At the same time, it has showed that it was prepared to cooperate temporarily with them when the crisis came in the middle of August. This crisis developed when certain Burmese units of the army, as distinct from the loyal, minority-race units, deserted and openly threatened Rangoon. At its peak, the government lost control of most areas of the country to three independent elements. These were the PYA, the Red Communists, and the White Communists. Since then, the situation has eased, with the government taking active measures against the insurgents with the assistance of the loyal Karen, Kachin, Chin, and Shan units of the army. At the time of writing, the issue is still in the balance. Despite optimistic government statements, it is clear that the communists remain power-

ful. A major military campaign may be required before the danger can be averted.

French Indo-China

Recently, the communist-inspired Viet Minh forces have stepped up their pressure against the French in Indo-China. Owing to their insufficient numbers, the French are resigned to defending the main towns and lines of communications. Certain hoped-for defections within the Viet Minh ranks did not materialize, and the strength of the organization increases with each success. Although Viet Minh has proclaimed that they are fighting to rid the country of the colonial system, it does not appear that they have any satisfactory alternative to offer. In those areas which they dominate, there appears to be no effective form of administration. When the French representative signed the agreement for the establishment of an independent Viet Nam within the French Republic, to consist of the three key provinces of Tonkin, Annan, and Cochin China, it seemed that the granting of such independence would have a stabilizing effect on the war-ravaged colony. This has not been so. Apart from the failure of the French government to ratify the agreement, owing no doubt to the political crisis at home, the provisional government of Viet Nam is considered by the Viet Minh to be a puppet organization. It does not, therefore, satisfy the desire of the inhabitants of this unhappy country for independence.

Netherland East Indies

The communist party in Indonesia has increased its activity within the ranks of the Republican government and has now penetrated units of the Republican Army. Owing to the lax administration of the Republic and its recent loss of support among Indonesians, a fertile breeding ground for communism has matured. The Dutch versus Republican situation has been in progress for many months and the inhabitants of the country are disillusioned and desire settled conditions. The stage is set, therefore, for communist propaganda which will offer a quick solution once the colonial system is eliminated. In view of the defection within the Republican organization and the disloyalty of the Republican Army, there is danger of open insurrection if the army is ordered to disband on the formation of the Dutch-sponsored interim government.

Conclusion

In addition to the countries mentioned above, communism is active in India, the Philippines, Siam, Japan, and is in open struggle in China. Communism has the advantage of dealing with uneducated people whose sense of national feeling has been awakened with the passing of the war years. These people are susceptible to the promises of the communists, without being able to realize the extent to which they can or cannot be fulfilled.

It is difficult to assess the degree to which the individual communist campaigns receive higher direction from outside. In general, it seems that this direction consists mainly of the distribution of propaganda material, interpretation of the "party line" at high-level communist meetings, and attendance at such meetings by the leaders from the respective countries. However, it is evident that the present advance of communism in Southeast Asia is allied to, and coordinated with, communist progress elsewhere in the world.

Permanent Fortifications of the Future

Translated and digested by the MILITARY REVIEW from an article by Colonel E. Moccetti in "Revue Militaire Suisse" (Switzerland) September 1948.

FORTIFICATIONS in general, whether permanent or improvised, are always more or less designed to improve a local defensive concept. Their purpose is to improve the maneuverability of an army. As is the case with weapons, fortifications are of little use unless they are well conceived and well used.

We have every reason to believe that the fortifications of France, and those in the countries in the French sphere of influence—Belgium, Holland, and Czechoslovakia—were conceived and constructed in accordance with principles laid down prior to 1938.

Nowhere on the major fronts of World War II was the ideal fortified region developed, however. It is probable that a considerable amount of compromise was necessary in nearly all cases in attempting to satisfy theoretical concepts. It appears, however, that the three main principles, flanking fire, blocking enemy movement, and protection, were realized in all cases. Natural obstacles were utilized, modified, and covered by fire in accordance with traditional principles. Artificial obstacles were established normally on reverse slopes. In permanent fortifications, the forward slope had already been condemned 60 years previously and no reason for resurrecting it had been advanced. Small fortified positions, typical flanking structures not meant for long-range action, were constructed up against a natural obstacle. They were well camouflaged and protected from direct fire.

Germany, like Switzerland, disregarded these principles in the construction of the Siegfried Line. The German western defense line, far less developed than the Maginot Line, was hastily constructed as a threat rather than as a permanent defensive system. Colossal as this undertaking was, it employed plans which at best were only a synthesis of good principles.

The attack on the best conceived and most elaborately constructed modern defense line, the Maginot Line, was carried out under abnormal conditions—the threat of attack from the rear and the withdrawal of personnel from the security garrisons. This makes it difficult to determine the real value of permanent defense installations. There is no doubt that the French Army was indirectly aided by the Maginot Line in 1939-1940, even though the high command did not profit from it as it could have. The facts that the battle of Belgium was lost, that Fort Eben-Emael fell, that the Ferte works of the Malmedy bridgehead collapsed, and that certain works of the Marfee woods north of Sedan surrendered without a fight are not sufficient to discredit the usefulness of permanent fortifications. These were unfortunate and inevitable episodes. They do not provide grounds for discrediting fortifications. France was aware of the imperfections in any system of defense, however well designed it might be.

The siege of Sevastopol provides an example of the value of modern permanent fortifications. Throughout that siege, it was demonstrated that a tenacious defense, employing close-quarter fighting, can check a modern attack for a considerable time. Special aerial bombs, heavy cannon, and the most resourceful methods of close combat were required to overcome fortifications that were well planned and shielded from direct observation and fire.

Another defense line, which could have furnished us a basis for judgment, was the

Mareth Line in southern Tunisia—the Maginot Line of the desert. This line was defended by the Italian general, Messe, against Montgomery. The Mareth Line failed to provide the desired defense because the Italian Armistice Commission in 1940 had hastily ordered that it be dismantled.

Doubtless the history of World War II will demonstrate that permanent fortifications, when properly constructed, rendered indirect support to armies in their operational plans and also resisted the direct attacks of modern weapons.

Future Fortifications

Now let us examine the probable influence which future weapons may have on fortifications.

From the strategic point of view, we believe that an obstacle is still useful in spite of the many possibilities that it may be by-passed. In fact, every fortification may be regarded as an obstacle with a maximum of static resistance and a varying degree of active potentialities such as fire power. Fortifications will be either extended or grouped, depending on their mission and the nature of the terrain. If they are established in accordance with accepted principles, they will be capable of meeting attacks from the rear without lessening their defensive capabilities. The possibility of their utilizing reverse slopes is worthy of serious consideration.

As regards the technical side of the tactics involved, it appears that existing fortification systems were constructed with both air and armored attacks in mind. Likewise, the problem of protecting personnel from the standpoint of material well-being and morale had been worked out on the basis of the experiences of the bombing attacks on the French forts during World War I. The concrete of that time, although not reinforced, resisted shells weighing a ton.

During World War II, there were reports of a 60-cm mortar, or larger, which was used by the Germans at the siege of Sevastopol. Aerial bombs of various weights and various explosive charges were developed. But it is generally acknowledged that it takes armor piercing shells which detonate after penetration to destroy fortifications.

Development of the means of destroying fortified works does not appear to be directed toward an increase in the power of the high powered shell. Rather, it seems to be moving toward the perfection of aerial or other bombs of great power and penetration.

Even the atomic bomb, judging from its employment in Japan and in recent experiments, does not appear to have any great effect on massive fortifications.

We can conclude, therefore, that neither the experiences of World War II nor the probable development of future methods of attack will materially modify the structure of fortifications that are built on presently accepted principles. This conclusion is my own. Final judgment rests with those who possess the means of modifying present doctrine or of creating new concepts.

In spite of the difficulties which confront the development of future methods of attack, the attack will certainly grow in power and speed. Without exaggerating the extent to which all types of weapons of destruction may be developed in the future, it may safely be said that those countries which use permanent fortifications must look ahead if they would avoid seeing their defensive works outmoded in time of war.

Today, just as 60 years ago when explosive charges and time fuzes came into use, we must ask these questions: should we meet destructive force with stronger fortifications, or should we build fewer but less-exposed fortifications? The an-

swer seems to favor the second point of view.

It may be expected that permanent fortifications will contain only such installations as are indispensable. Such weapons as long-range artillery will no longer be kept in such fortifications. Simplification will reduce the number and the exposed surface of visible targets. Vast and costly installations will be avoided.

The removal of long-range artillery from fortifications is fully justified since they may be supported now by aerial bombs, very long-range artillery, self-propelled projectiles, air forces, and tanks. The removal of cannon from emplacements within fortifications will simplify these structures enormously and target areas will be reduced.

The importance of short-range fire also may be reduced. This concept, perhaps, is not entirely new. In all periods, poor countries have reduced the number of long-range weapons and concentrated on close combat. In the final analysis, close combat insures possession of the terrain.

A system of fortifications without long- or short-range artillery may appear to be excessively limited in fire power. This objective is just, but we believe that the resulting simplification of the system and the greater strength of the works will compensate largely for the decrease in fire power.

In the future, certain weapons which can be manipulated at very great distances will be developed. These will provide the fire power that has heretofore been sought within the fortifications. This suggestion appears particularly pertinent in the case of the permanent fortifications of the Swiss system.

Some fortified works, with well-defined and unchangeable missions, may retain their traditional structure. In other cases, particularly a periphery, a bridgehead, or a final protective line, the type of installation that we propose could hold better against attacks of the future. This would be especially true in the case of Swiss fortifications, whose purpose, outside the redoubt, is to block axes of penetration. With demolitions and proper defense of strong obstacles, the type of installation we propose will be sufficient.

In the future, only those fortifications which will present small targets and serve to break the attack will have any right to be considered modern or useful.

The *coupure*, a term which is not new in connection with permanent fortifications, consists of a simple, secure, and important barrier. It is an obstacle, a natural scarp, or artificial counterscarp, and a flanking element. It may be regarded as a link in every defensive installation.

Utilization of the counterslope is still more important. The Swiss terrain expressly invites use of the counterslope. Only flanking and reverse fire are necessary. Protection against attack is better insured if the units of the fortification system are well incorporated within a natural covering body. Ways of access should be few and difficult.

The single or double casemate of stone or concrete, the counterscarp wall, a deep shelter, and armament adequate to deny access to a given sector, are the minimum requirements from which the maximum advantages may be attained. Anything less than this is not a permanent defensive installation. This radical solution may find more adherents today than in the past. The continually growing power of the means of destruction favors this concept.

The idea of completely abandoning fixed fortifications of concrete and steel dates from the introduction of the explosive shell. At that time, alert men advanced the idea of an improvised fortification with a movable armored turret. We cannot accept this concept, however, except as a supplement of considerable importance

to improvised field positions, or as a useful component of permanent installations.

The use of mobile armored forces in modern warfare is conducive to the building of strong but improvised works. Armor may be very successfully employed to stop gaps between fortified areas and to supply the fire power required in a struggle around a fortified place.

Permanent works still constitute the protective installation reduced to its most simple expression. Armor, together with all the other weapons which fight at a distance, can serve as the lance of the fortification.

Conclusion

Systems of permanent fortifications in their present form still retain their strength and utility. Even future developments in the means of attack will not alter their value. The atomic bomb produced no startling effects except on mobile objects and elevated structures. Elevated fortifications have long since become obsolete.

The Battle of Britain—German Viewpoint

Digested by the MILITARY REVIEW from an article in "The Aeroplane" (Great Britain) 1 October 1948.

IN order to obtain a complete picture of the state of the *Luftwaffe* at the beginning of the Battle of Britain, it is necessary to look back to 1937 when the first elements of Germany's Air Force were given operational experience in Spain. The *Kondor Legion*, which was assisting Franco against the Republicans, was composed at that time of about 120 aircraft and was in effect a self-contained Air Force. It had fighters, bombers, ground-attack and reconnaissance aircraft, and *flak* and communication units. Later, the organization became more complex. By 1939, most instructors at *Luftwaffe* training schools in Germany had had operational experience.

Such older aircraft as the *Heinkel 51* and *59*, the *Henschel 123*, and the *Junkers 52* and *86* were later supplemented by the newer breed of cantilever monoplanes. These included the *Heinkel 111*, the *Dornier 17*, the *Junkers 87*, and the *Me 109*. The latter aircraft were, of course, infinitely superior to the motley collection of Republican aircraft, and the organization and efficiency of the *Kondor Legion* also led to the virtual control of the allied Spanish and Italian units. The German General Staff in Spain thus gained valuable experience in operational policy.

Used at first for bomber escort duties, the *Heinkel 51* was soon found to be too slow for air combat, and was relegated to ground attack. It carried 10-kg bombs below the wings. The *Messerschmitt 109* A, *B*, and *C*, single-seat fighters proved quite satisfactory in operation, although it was not until the later stages of the Civil War that radio-telephone control between ground and air units came into service. One of the most immediate lessons was that the original armament of two 7.9-mm machine guns of the *Me 109* was inadequate. This was later rectified, first by the installation of a 20-mm motor-cannon, and then by two wing-mounted cannon or machine guns.

Tactical experience also showed that the conventional tight "V" formations of fighter units was impracticable with high-speed aircraft. Loose formations were soon adopted. The organization of fighter units was then established as four *Staffeln*, each of 12 aircraft, comprising a *Gruppe*. Operational forma-

tions were then based on a *Schwarm* (four aircraft), comprised of two *Rotten* of two aircraft each. These principles were adapted with typical Teutonic thoroughness, and when used by well-trained and disciplined pilots they were quite successful.

Because the *Heinkel III* and *Dornier 17* were successful in bombing operations and also were faster than most Republican fighters, the Germans believed that heavy armament and armor could be sacrificed. It was this mistake, perhaps more than any other, that cost Germany the Battle of Britain. The operational personnel had become aware of this fallacy by bitter experience when attempting unescorted bombing operations. But, as happens so often, the Staff was blissfully unaware of reality.

Supplementing the *Henschel 123*, the *Junker 87* first went into service in Spain in 1937. As a strategic weapon, it achieved a fair amount of success against limited opposition. Under similar conditions, although operating tactically, the notorious *Stuka* became a household word as a result of the battles of Poland and France.

There, then, is the setting for the first air battle of real consequence. From 1937 until the summer of 1940, the *Luftwaffe* had been lulled into a false security by a string of successes with a weapon which had not encountered any formidable opposition. Working on the precepts evolved from the experience of the *Kondor Legion*, the *Luftwaffe* had comfortable clashes with the French in their tight formations. To a lesser extent, they had the same experience with the British during the winter of 1939. Dunkirk led to some fierce air fighting and heavy losses to German bombers. But Dunkirk was a sideline for the *Luftwaffe*, which was largely engaged elsewhere.

Into Battle

During the lull before the storm, almost all of the fighter, and two main bomber forces of the *Luftwaffe* were deployed in the north of France. There were about 1,000 fighters and roughly half that number of bombers. Their task was to gain the air superiority necessary for the invasion of England and to eliminate British sea power by the destruction of ports and shipping. Previous accounts of the Battle of Britain have accentuated the part of the bombers from the very beginning. It is fairly evident, however, that the *Luftwaffe* realized the strength of Fighter Command. Therefore, in order to conserve its bomber strength, the first formations of aircraft to appear over Britain on 10 July were German fighters. Flying up to about 25,000 feet, these formations were intended to draw British fighters into combat under adverse conditions. At first the plan met with some success. The German Air Staff were quick to notice how soon the RAF changed from tight formations to a more tactically manageable deployment.

Fighter Command, however, soon refused to be baited. On 8 August, small forces of German bombers, usually comprising individual *Gruppen* with large fighter escorts, began decoy raids on shipping and coastal targets. The first large air battles ensued. Because of skillful ground control, the *Hurricanes* and *Spitfires* were often able to evade the high-flying escort and inflict heavy losses on the German bombers. In theory, the German bombers were to have made their way quietly home with a nominal escort, having lured the RAF to battle.

To a certain extent, the British tactics was countered by the Germans with the use of close-escort fighters. Goering nullified the effect of his own tactics, however, by prohibiting these fighters from leaving the bomber formations to give combat. The "early warning screen" around Britain also allowed Fighter Command to obtain the maximum endurance from its aircraft. British planes were able to pursue the German formations back across the Channel. A proportion of the *Luftwaffe* fighter

strength thus had to be diverted to meeting returning bombers.

In addition to active defense, radio countermeasures against the German "X" and "Y" beams and the *Knickebein* system, which were used for navigation, caused a certain amount of confusion. RAF fighters were also led to the German formations by the beams.

The unsuccessful attempt to destroy Fighter Command in the air wasted much of the *Luftwaffe's* strength. The German attack was then changed to fighter air fields and production centers on 24 August. During this third phase, German bomber formations were composed of about 80 aircraft, with about three times that number of escort fighters.

The German centralized command had never laid down a clear over-all plan for the operation. Now, as the attacks were further frustrated, the situation steadily deteriorated. For instance, complete bomber formations were often left without escort. This is where the *Hurricane* really came into its own. Its effectiveness against the *Me 109 E* was limited by a maximum speed of only slightly more than 300 mph, but the shattering fire power of its eight 0.303-in. machine guns literally tore the unarmored bombers to shreds.

It was apparent to the *Luftwaffe* during this third phase that its attacks on RAF air fields were effective though costly. Goering chose to assume that he had complete air superiority and that the time was ripe for the great attack on London and other strategic targets. The fact was that British fighter resistance was actually increasing.

On 7 September, the daylight bombing offensive was launched. Massed formations of bombers were used, with close escort and high fighter cover. The difficulties of making a successful rendezvous over the French coast were accentuated by poor ground control. Precise coordination became almost impossible. Because of the limited endurance of the German escort fighters, the formations could not afford to make diversionary approaches to the English coast. Their interception by British fighters was therefore that much simplified. The German escort fighters were still required to stick very closely to the huge bomber formations by Goering's orders, and this destroyed the initiative of action so essential to fighter combat. Above 20,000 feet, the straggling German bombers were so slow and cumbersome that the fighters found it most difficult to maintain position. Thus the whole unwieldy mass of German aircraft, often 10 miles long, had to await the pleasure of the *Hurricanes* and *Spitfires*, with disastrous results.

Occasionally, through sheer weight of numbers, the attacking aircraft broke through and created a fair amount of damage. The ethics of their bombing came under great criticism at the time, but we ourselves attacked precisely similar objectives later in the war.

German losses during this period, from 7 to 30 September, reached a peak of 435 aircraft. From the point of view of a prolonged attack, this was absolutely prohibitive. These losses were increasingly due to the weather, which disrupted the organization of formations in the air, and to the generally reduced effectiveness of the striking force. Operational fatigue was rife among the remaining crews. The latter had been flying since the end of July, often on more than one operation per day without adequate rest. It had been found absolutely necessary to allow 1 day's rest in 5 to operational crews. As there seemed no hope of overwhelming Fighter Command, daylight bombing was called off. Hence, by 30 September, the Battle of Britain had been won.

Many *Me 109s* had been lost through being forced down in the Channel by lack of fuel. Eventually, this plane and the *Me 110* were fitted with external racks to

carry long-range fuel tanks. The last attacks of the *Luftwaffe* began in October 1940, when these aircraft were modified in large numbers as fighter-bombers. Bombs or tanks could be carried on the same rack and were indistinguishable from a distance. Large formations of fighters were mixed in more or less equal numbers with fighter-bombers. Although losses were reduced, the bombing was absolutely pointless from the military point of view. The official targets were London and the southern air fields, but there was no pretence at aiming the bombs. At the end of October, the fighter-bombers gave place to heavy bombers, which began operating intensively at night. During that month, *JU 87s* continued their attack against shipping, with strong escort. But the heart had gone out of the *Luftwaffe's* attack.

The *Luftwaffe*, however, was far from being a broken force. While German figures later admitted a monthly loss averaging more than 400 aircraft during the 4 months' battle, aircraft production was about 800 a month and continued to rise.

Warfare in the Sicilian Hills

Digested by the MILITARY REVIEW from an official Canadian booklet "From Pachino to Ortona—The Canadian Campaign in Sicily and Italy, 1943." *

FIVE days after the landings on 10 July 1943, the shape of the Sicilian campaign was beginning to emerge. The Eighth Army's right wing was not making the rapid northward progress which had been hoped for. The Germans south of Catania "desperately contested every inch of ground," and it was clear that further delay was to be expected here. Since the enemy's left seemed, for the moment, to be securely anchored, it was very desirable to turn and lever loose his right, which rested in the hills about Enna, a town on which centered the whole road system of central Sicily.

Canadians Meet the Germans

In these circumstances, the Canadians on the Eighth Army's left suddenly became a very important element in the situation. They were ordered to resume their advance in the northwesterly direction on the night of 14-15 July 1943. The next morning they passed through Vizzini. A few miles beyond it the Hastings and Prince Edward Regiment, leading the advance of the 1st Brigade on Highway No. 124, which runs along the rocky spine of Sicily's southeastern peninsula, saw before them, perched on a very high hill, the town of Grammichele. This was to be the scene of the Division's first fight with German troops.

As the reconnaissance group of the Three Rivers Regiment, leading the column, approached the town, there was no sign of the enemy. He was there, nevertheless: detachments of artillery and tanks of the Hermann Goering Division were biding their time. When the group reached the outskirts, there was a sudden spatter of fire from guns ranging from 20-mm up to 88-mm. A Canadian tank and three carriers were knocked out and several vehicles destroyed.

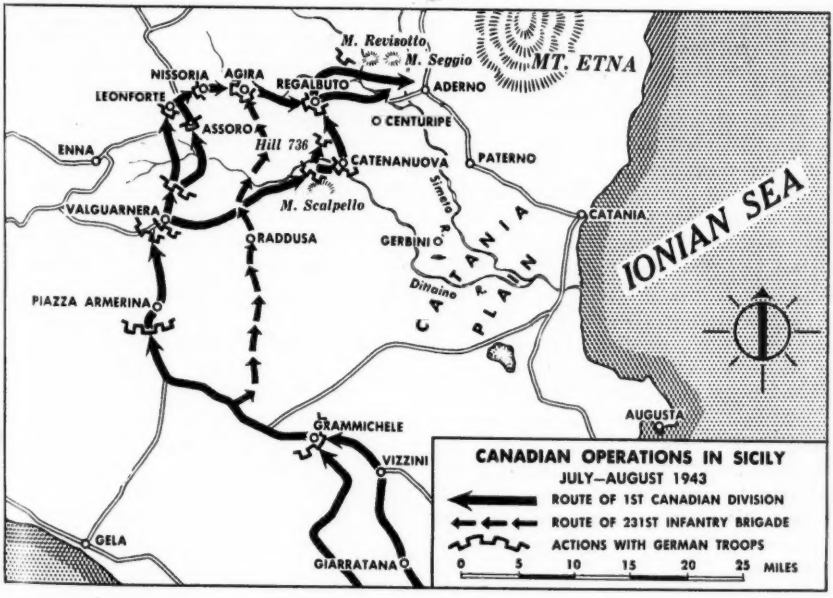
The Canadians deployed and pushed forward. Our tanks came into action against the enemy's, three of which were destroyed and left behind in the town. As soon as the leading company of the Hastings succeeded in entering Grammichele, the enemy began to evacuate. By noon, the place was clear and the Germans were retiring north-

*Printed by the King's Printer, Ottawa, Canada, price 50 cents.

wards, harassed by our artillery. The little fight had cost the Dominion troops only three men killed.

From this time forward, the Canadians were engaged in increasingly arduous fighting against the Germans. The latter waged a series of most stubborn and skillful delaying actions, a type of operation for which the rugged terrain of Sicily was singularly favorable. Fought as it was in the blistering heat of a Mediterranean summer, the campaign which the Canadians conducted during the next 3 weeks was hard and exhausting. To the difficulties of ground and climate and the determination of the enemy in action, were added the boundless industry and ingenuity which he displayed in laying mines and effecting demolitions. Because of the mountainous nature of the country, advance was largely limited to the roads, which were narrow and tortuous. The German engineers made the most of the ample opportunities presented to them by these conditions.

Early on 16 July, the 48th Highlanders entered Caltagirone unopposed. The Division had been ordered to thrust on vigorously in the direction of Enna. The lead now fell to the Edmonton Regiment, which pushed on to within 3 miles of Piazza Armerina and then ran into well-organized and well-concealed enemy positions on the high hills south of that town. From these hills, artillery, machine-gun, and mortar fire came down.



The Edmontons deployed on either side of the road and went for the hills on which the enemy appeared to have concentrated his strength. Supported by a British medium artillery regiment and self-propelled guns of the 142d Field Regiment, they fought their way on to the heights. As evening fell the enemy withdrew. The

Edmontons suffered 27 casualties, including 6 men killed. Piazza Armerina was in our hands by the early morning of the 17th.

Off to the left, the American troops were driving on abreast of the Canadians, and it seemed a matter of doubt which would reach Enna first. The Canadians, however, were encountering steadily increasing opposition as they fought their way northwestward towards that important point. The next obstacle was a position southwest of Valguarnera, where *Panzer Grenadiers* of the 15th Division had taken post in strength on the hills about the junction where the road to that place met the main highway (No. 117) leading to Enna. The 3d Canadian Infantry Brigade was now heading the advance, and on the afternoon of 17 July it ran into these enemy positions, which were by far the most formidable that the Division had yet tackled.

General G. G. Simonds, 1st Division Commander, decided to put in a two-brigade attack that night, the 3d Brigade advancing along the main road while the 1st struck across the country to the right. The *Royal 22e Régiment* led the 3d forward in the moonlight, but the enemy on the hills brought down heavy fire and little progress was made. It was decided to renew the attack in the morning with flank movement on either side of the road supported by a powerful artillery concentration. That day, the battalions of the 3d Brigade saw hard fighting, both the *Royal 22e Régiment* and the Carleton and York Regiment being heavily engaged. By late afternoon the Germans had been pushed back from the hotly-contested road junction. In the meantime, the 1st Brigade had carried out its cross-country march under difficult conditions. The only routes available were goat paths along the mountain-sides. Before dawn on 18 July, however, the Hastings and Prince Edward had ascended the hills about Valguarnera and during the day were heavily engaged with the defenders of the town. They were unable to take the town, but they killed large numbers of Germans. The Royal Canadian Regiment also came into action and got within half a mile of the place after heavy fighting, in which they lost their second-in-command. The enemy had given a good account of himself but he realized that he was nearing the end of his rope. During the day, some of his transport was observed to be withdrawing. That night, the 48th Highlanders occupied Valguarnera without opposition. Thus ended the heaviest day's fighting the Canadians had yet seen. It had been confused and costly. The Division's medical units reported more than 100 casualties for the day, but the attack had pushed the enemy back one stage further.

It had now been decided that the Canadians, instead of advancing up the main road towards Enna, should by-pass that place. Enna would be left to the Americans, and the Canadians would take the more easterly road running from Valguarnera northwards to Leonforte. The move began on the evening of 18 July. It was hindered by blown bridges and other demolitions. In a short time, the Seaforth Highlanders who were leading, ran into another of the enemy's hill positions commanding the road. The Seaforth and the Patricias proceeded to attack it and the divisional artillery supported them in strength. By the evening of 19 July, the enemy had been forced out.

The division commander now decided to continue the advance on a two-brigade front, with the 2d Brigade moving up on the left against Leonforte, and the 1st Brigade branching off to the right to take Assoro. These were no easy tasks. Both towns stood on very high ground, and the attackers had to approach them across the valley of the Dittaino River. The Germans, with their observation posts dominantly sited on the ridge between the two towns,

were able to keep the river under continual accurate fire.

The new advance began about midnight on the night of 19-20 July. The following morning the Edmonton Regiment managed to establish a bridgehead across the dry bed of the Dittaino. On the right, the 1st Brigade likewise got across it in the face of fire from the enemy's lofty positions beyond it.

In the meantime, the division's reconnaissance squadron (a sub-unit of the 4th Princess Louise Dragoon Guards), had pushed out a patrol towards Enna. About 5 miles from the town, they ran into a road crater which made the further use of transport impossible and a party of NCOs and men proceeded on foot. At the outskirts of Enna, they saw two truckloads of troops just entering the town. These turned out to be Americans arriving from the west. The patrol picked up a ride into town on a Yank jeep and so arrived deep in the heart of Enna with the American vanguard.

This interlude was followed immediately by an episode of a very different sort: the storming of the commanding ridge on which the towns of Leonforte and Assoro stood, blocking the Division's further advance.

Night Battle of Leonforte

The attack of Leonforte, at the western end of the ridge, was the task of the 2d Canadian Infantry Brigade, commanded by Brigadier (later Major General) C. Vokes. It was launched in the first instance by the Seaforth Highlanders, who pushed up to within striking distance of it on the morning of 21 July. The last mile or so, however, presented problems. Between the attackers and the hill on which Leonforte stood was a deep ravine. The bridge across it had been demolished, and the approaches were swept by enemy fire. The first intention was that the Seaforth should attack that afternoon, but these plans were disrupted when part of the preliminary artillery bombardment fell upon the battalion's headquarters. This caused a number of casualties and necessitated a change of plan. The attack was postponed and the Edmontons were ordered to take over from the Seaforth.

At 2100, the assault was launched. It was preceded by a very heavy concentration fired by the division artillery and by mortar and machine-gun fire provided by the Saskatoon Light Infantry. The plan was for two companies of the Edmontons to cross the ravine and force their way into the town. Meanwhile, the 3d Field Company, Royal Canadian Engineers, was to bridge the ravine to facilitate the advance of supporting arms.

The bombardment temporarily sent the defenders to cover. As a result, the Edmonton assault companies were able to clamber down into the ravine, climb the steep cliff on the other side, and get into the town with little difficulty. The balance of the battalion followed. Soon, however, the enemy recovered himself and threw in a powerful counterattack, supported by tanks and by machine-gun fire from the rooftops. A fierce battle now began, and there were desperate encounters in the darkened streets. Radio communication failed, and the hard-pressed battalion was unable to call for antitank guns to deal with the enemy armor. Moreover, the unit itself became split up and the various parts lost contact with each other. A battalion commander and his headquarters, with platoons from two companies, cleared a group of buildings in the center of the town, killed many of the enemy, and took up a defensive position.

While this wild night battle went on in the town, the Engineers had been working steadily, under constant fire, at their task of bridging. Their company commander, with a few men of the Edmonton Regiment, advanced beyond the bridge

to the entrance of the town. There they ran into two enemy tanks, a machine-gun post, and a force of infantry. By showing a bold front and firing their small arms they stood off this formidable group. Subsequently the divisional antitank regiment brought up one gun and drove off the enemy tanks.

Before morning, the bridge was finished. There was still no communication with the Edmontons, but an officer of the reconnaissance squadron had gone into the town and returned with useful information about the situation there. Brigadier Vokes, who had come forward, decided on a bold stroke. Although it was now broad daylight and the enemy's fire was still sweeping the bridge, he resolved to throw a "flying column" across to help the Edmontons and complete the clearing of the town. The column was composed of four tanks, a troop of antitank guns and a company of the Patricias. It made its dash about 0900. The tanks led, followed by the antitank troop with infantrymen clinging to the tractors and the guns. At breakneck speed, the column raced down the road, sped across the bridge, and tore up the long switchback hill into Leonforte. Machine-gun fire raked the column, but such was the speed of the rush that this caused only one casualty. A moment later, the enemy posts near the entrance to the town, stunned and overwhelmed by the suddenness and power of the attack, had surrendered.

The infantry now fell to work, battling from house to house. In the center of the place, they made contact with the lost band of Edmontons. The other companies of the Patricias moved in to help. There was considerable fighting before the job was done and at least three German tanks were knocked out in the streets. By the afternoon, Leonforte itself was clear but the enemy still held two high features commanding the town from east to west. Two companies of the Patricias attacked these positions and before evening both had been taken.

The battle of Leonforte had been won, but at considerable cost. The Patricias alone suffered 64 casualties. The leftward portion of the ridge obstructing the division's advance had thus been cleared. Simultaneously, deeds no less distinguished had been done on the right.

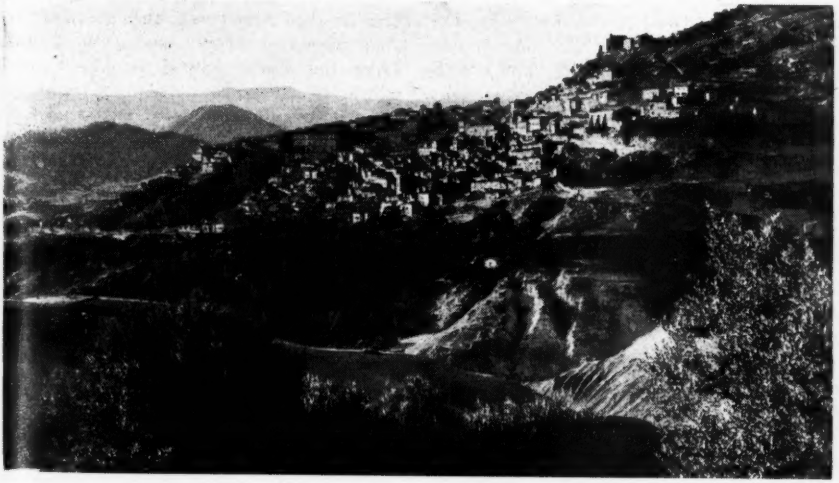
The Escalade of Assoro

On 20 July, the 1st Canadian Infantry Brigade had gained a foothold across the Dittaino within striking distance of the town of Assoro. The Hastings and Prince Edward Regiment were ordered to prepare to attack the place that night. Accordingly, the commanding officer of the assault battalion went forward with his intelligence officer to reconnoiter the ground. Our advanced positions were under constant harassing fire. As the two officers surveyed the hills from a weapon pit, an enemy shell struck a tree branch above them and exploded, killing the CO and mortally wounding his companion.

The new commander of the battalion now went forward with his company commanders to complete the reconnaissance. The light was failing, but on the horizon to the north they could discern the mass of the escarpment running from Leonforte through Assoro and on to Agira. Immediately before them, dwarfing all else, was the silhouette of the Assoro, a peak rising about 3,000 feet above sea level. The direct approach was by a road to the left. It was clear that the Germans would have this well registered and to attack along it would be suicidal. A conceivable alternative was a march to the right across country and an attack up the very steep eastern slope of the mountain. The commanding officer, relying upon the chance that the Germans would have considered such attack a physical impossibility and make no provision against it, resolved upon this daring course. At 2130, the column

moved off, headed by a specially-formed "assault company" composed of 20 of the most active men from each of the rifle companies. They were armed with rifles and a few Bren guns, and carried nothing except ammunition.

All night, the Hastings marched silently through bright moonlight over most difficult terrain. Three-quarters of an hour before daybreak they found themselves, as yet undiscovered by the enemy, at the foot of Assoro mountain, which still towered 1,000 feet above them. The men were already desperately tired, but the hardest test was ahead. The battalion assailed the northeastern slope of the mountain, where it was steepest. The commander's bold conjecture was justified: the enemy had made no dispositions for defense here, assuming that the precipice itself was defense enough. From terrace to terrace, the tired soldiers hauled themselves up. At one time, it seemed that they were actually too exhausted to continue. To be caught by dawn on the mountainside, however, would have meant utter disaster, and the desperate climb went on. As daylight broadened, they found themselves at last on the summit of the hill beside the old square castle of Roger the Norman, overlooking the town which lay on a slightly lower level. The few German soldiers manning an observation post were killed or captured. The battalion, seeing a convoy of enemy vehicles coming up the road, opened fire and knocked out at least eight of them in short order.



Leonforte, Sicily (above), was one of the formidable hill towns which the 2d Canadian Infantry Brigade stormed in July 1943.—Canadian Army photo.

The enemy, recovering from his surprise, now began to make things hot for the troops on the hilltop. A German battery, which had been firing on Leonforte, swung its guns around and within a few minutes was dropping shells accurately in the battalion area. The battalion radioed for

artillery support and the German battery was shortly silenced by our field guns. Canadian patrols penetrated into the town, but the enemy managed to retain his hold on most of it and there was constant sniping from the houses.

By evening, the position of the Hastings and Prince Edward was extremely difficult. Thanks largely to timely help from the divisional artillery, they had beaten off a dangerous counterattack at nightfall. But they had no food and were running very short of ammunition, and unless these could be replenished it would be necessary for the unit to give up the commanding position it had won. An officer and a warrant officer volunteered to make their way back to brigade headquarters to explain the situation. After a perilous trip, they reached their destination. The Royal Canadian Regiment offered to provide a carrying party to take up rations and ammunition. It consisted of about 100 volunteers, who left all their own equipment behind and carried a full day's rations and ammunition for the Hastings in packs and bandoleers. They were escorted by another company of the RCR and guided by the two messengers from the Hastings. The party started across country at midnight, reached Assoro without detection by the enemy, and got back to their own unit in the early morning. The men on the mountain ate their first meal in 36 hours.

On the evening of 21 July, the Commander of the 1st Brigade had ordered the 48th Highlanders forward to assist the Hastings. That night, the 48th attacked the heights southwest and southeast of Assoro, supported by a squadron of tanks from the Three Rivers Regiment. This operation proved that Sherman tanks had unexpected possibilities for mountain warfare. On the 22d, the Highlanders made contact with the Hastings, and the latter unit's position thereafter was much easier. The enemy withdrew from the town of Assoro about midday, and one of the dramatic episodes of the campaign came to an end.

The Ecole d'Etat Major—French Staff School

Translated and digested by the MILITARY REVIEW from an article by Pierre Favereau in "Le Monde Militaire" (France) 26 November 1948.

It is obvious that a military commander placed in command of any large unit such as a division, army corps, or army needs aides to prepare his orders, to transmit them, and to see that they are carried out.

The complex task of setting in operation a diverse combination of arms makes this necessary. A division staff consisted of 6 officers in 1914, 14 in 1939, and 16 in 1945. This increase is even more evident when we take into account all the personnel which are attached to the headquarters of a division: 150 in 1914, 271 in 1939, and 362 in 1945.

Since it is beyond the capabilities of a single individual to command a large unit, it is necessary to set up a crew of men about the chief who will help him. The training of these interchangeable crew members—of staff officers—has always been a matter of concern in all armies. One of the first measures taken by Hitler in reestablishing German military power was the reopening of the war academy. During hostilities, the period of study was even increased at this academy in order to obtain more competent staff officers.

After 1940, the *Ecole de Guerre* in France was closed. But since the training

of staff officers was a matter of vital necessity, camouflaged courses were opened at Clermont-Ferrand and at Avignon, and at Rabat and Algiers after the landing in North Africa. The *Ecole de Guerre* took over these courses, which were clandestine at first and then official after 1942. The school assumed its present name and program in 1945. The school trains officers for duty on the staffs of groupments, divisions, or military regions in time of peace.

In 1939, all staff officers came from the *Ecole Supérieure de Guerre*. The "army technique" course was its continuation. Finally, those officers who were destined for high posts took the courses at the *Centre des Hautes Etudes Militaires* (CHEM—Center of Advanced Military Studies).

The "army technique" course and the CHEM, which has been called "the marshal's school," no longer exist. The reconstituted *Ecole de Guerre* receives majors and lieutenant colonels who study staff technique of the army corps and armies and inter-army problems, and provides its students with a thorough general education. It prepares them for higher command posts.

To complete the list of the large schools of higher instruction, we must also mention the *College de Défense Nationale et d'Economie de Guerre* (College of National Defense and War Economy) directed by General Mast. This school succeeded the *College des Hautes Etudes de Défense Nationale* (College of Higher Studies of National Defense) which had been created by Admiral Castex a short time before the war. Students in this college study the problems of national defense, which are often more of a civil than of a military nature. The problems include war economy, psychological defense, civil protection, armed forces, and scientific research, since the armed forces are now considered only one of the elements of national defense.

Organization of Courses

The *Ecole d'Etat Major* recently began instruction for its tenth class. The school is housed in one wing of the *Ecole Militaire*. The buildings were in a bad state of repair after several years of disuse. Everything had to be remodeled. The new students occupy an entirely new amphitheater, and pleasant class rooms are lighted with fluorescent lights. Offices are freshly painted. When one stops to consider recent appropriations, the results seem almost miraculous.

Most of the students are not admitted unless previously interviewed by the commandant of the school. The prospective student must be more than 28 years of age and less than 33, and must pass tests in history, geography, languages, topography, and general culture. After this first barrage, the accepted candidates pursue courses in the different services and arms for a period of 3 months. An oral examination determines whether the candidates are benefiting from the courses and a few are eliminated. Finally, only 70 or 80 officers remain in the ranks. These are joined by a few foreign officers. The courses last for one scholastic year, from November to July.

The schedule of activities of the school is divided into four parts:

1. Military and general culture.
2. Physical education and sports.
3. Tactics—the combination of arms in combat.
4. Staff technique.

It is possible to organize the departments of a staff along the lines employed in industry. Through the efforts of the *Ecole Nationale d'Organization Scientifique de Travail* (the National School of Scientific Labor Organization) the students visit private and government establishments.

Modern warfare is a war of matériel and the industrial potentiality of a nation is one of the essential elements of its national defense. Seeing stores of materials and shops, such as those at Bourges, or large steel mills, the future staff course graduates obtain an accurate picture of industry.

The use of combined arms often raises such difficult problems that special schools have had to be created for their solution. The students, therefore, take courses at the Mergvurg *Centre d'Appuiaerien* (Air Support School) and at the Arzew *Centre des Operations Amphibies* (Amphibian Operations School).

Staff Technique

To get the maximum results from a large unit, it is not enough to know its composition. The unit must be made to live, it must be moved, it must be led into battle. Handling thousands of men is a complex task; a division of motorized infantry occupies 260 kilometers of road while on the move. It requires 8½ hours for its vehicles to pass a given point. One can understand, therefore, that movements, halts and refueling, must be conducted in accordance with precise rules which have been perfected by experience or established by long study. The movement of a division by rail requires 54 trains, and the staff officer is obliged to make provision for everything, such as the composition of the trains, their loading, and schedules.

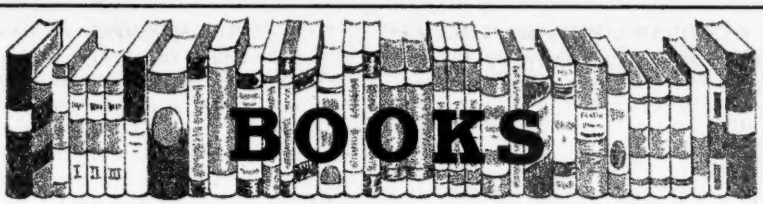
Staff technique is acquired from books, by listening to lectures, and especially by practical exercises. One of the instructors develops a tactical problem in detail. All the instructors study, discuss, and criticize the proposed solutions. Thus, a brief is composed for every exercise, consisting of some 50 pages of text dealing with the general situation of friendly and enemy forces, orders of the different authorities, information bulletins, geographic or technical notices, a dozen maps and sketches, and other related items.

The discussion and study of a problem represents nearly 3 weeks of work. There are always incidents during the presentation of a problem that come up unexpectedly. The classrooms are provided with loudspeakers which permit the creation of battle atmosphere. Even the clocks participate in the exercises; by means of a special mechanism, they indicate the conventional hours and the zero hours. The commandant of the school insists on maintaining a judicious balance between intellectual and physical activities. Hence, the required sports activity is made as attractive as possible through the choice of elective sports.

The results obtained during the instruction are checked during staff trips which complete the course of study. Staffs, as they would exist in the field, are set up with a full complement of officers, men, and matériel. They function realistically. Umpires guide the different phases of the battle and control them in accordance with the decisions taken by the opposing sides.

Every year a few reserve officers take part in this staff trip. This constitutes the crowning event of reserve training, for the *Ecole d'Etat Major* is also the final training center for the reserve officers of the staff service. At the present time, it is the only official center engaged in the training of the officers of the reserve.

The school makes use of all modern means of instruction. There are many class sessions conducted by using motion pictures. Certain films made by the army film service (for example, the deployment of an artillery group or a tank battle in cooperation with infantry) are more instructive than the best lectures. Appropriations are also expected to permit two-sided exercises with umpires, with adequate means of communication. Practical exercises will thereby be given more prominence.



FOR THE MILITARY READER

THE SECOND WORLD WAR, 1939-1945. A Strategical and Tactical History. By Major General J. F. C. Fuller. 450 Pages. Duell, Sloan and Pearce, New York. $5.00.

This volume presents a broad review of all theaters in World War II, describing the various campaigns and discussing their respective strategical and tactical lessons. Regarding air power, the author says that, once air superiority is assured, the primary purpose of aircraft is logistical rather than tactical. He believes that the correct use of aircraft was demonstrated in Burma. The author views war as a political instrument and the defeat of an enemy as a means to a political end. More amphibious operations would have been useful in the campaign in Europe, General Fuller contends, and he disagrees with the policy of attack on a broad front.

ENGINEERS IN THEATER OPERATIONS. Edited by Lt. Col. George A. Meidling, Office of the Chief Engineer, General Headquarters Army Forces, Pacific. 306 Pages. Superintendent of Documents, Washington, D.C. No price announced.

The varied scope of activities of the Corps of Engineers, U.S. Army, in the Southwest Pacific during World War II is summarized in this book. It is the first of a projected eight-volume series with the title of *Engineers of the Southwest Pacific, 1942-1945*. The present volume is well illustrated and contains 56 colored maps.

SCIENCE AT WAR. By J. G. Crowther and R. Whiddington. 185 Pages. Philosophical Library, New York, $6.00.

One of the first detailed accounts of the contribution of science to World War II, this book is based on the official records assembled by the Scientific Advisory Committee to the British cabinet. The book is divided into four parts, under the titles of Radar, Operational Research, the Atomic Bomb, and Science and the Sea. Approximately one hundred graphs, drawings, and photographs are used to illustrate the text.

HITLER AND HIS ADMIRALS. By Anthony K. Martienssen. 275 Pages. E. P. Dutton and Co., New York. $4.00.

This book is primarily the record of Admirals Raeder and Doenitz, but it also presents a picture of Germany preparing for, and then waging, a losing war under Hitler. Raeder is represented as a profound naval strategist, an authority in foreign affairs, but an amateur in domestic politics. Doenitz, who succeeded Raeder in 1943, is pictured as a skillful U-boat theorist, an ardent believer in Hitler, a shrewd political manipulator, but a bad naval administrator and strategist. The failure of the German Navy is attributed to three factors: it was the smallest of the three services; Hitler was fundamentally opposed to a balanced fleet; and it lacked a fleet air arm and was inadequately supported by the Air Force.

THE CANADIAN ARMY, 1939-1945. An Official Historical Summary. By Colonel C. P. Stacey. 354 Pages. King's Printer, Ottawa. $2.50.

This is one of the first, if not the first, comprehensive official histories produced by a nation engaged in World War II. Intended for the general reader and written in non-technical language, it is admittedly a summary of the Canadian Army's record in the war. The author, who is the Official Historian of the Canadian Army for World War II, based his work on official Canadian and Allied records, on interviews with enemy commanders, and on enemy documents. Four chapters of the volume deal with the Italian campaign and six with the campaign in Northwest Europe. There is a particularly detailed account of the Dieppe Raid in 1942. The volume includes reproductions in full color of 12 paintings by Canadian Army war artists and numerous photographs and maps. The main history of the Canadian Army in World War II is expected to be completed late in 1950 in three volumes. Volume I will cover the years from 1939 to 1943 and the operations in the Pacific. Volume II will deal with Sicily and Italy, and Volume III will cover the campaign in Northwest Europe.

WAY OF A FIGHTER. The Memoirs of Claire Lee Chennault, Major General, U.S. Army (Ret.). Edited by Robert Hotz. 397 Pages. G. P. Putman's Sons, New York. $4.50.

Here is told the personal story of the commander of the American Volunteer Group, the "Flying Tigers," and his part in the fighting in China. The book contains numerous references and comments on public officials and military leaders who have been a part of the China scene in recent years, particularly during World War II.

OUR AUTHORS

(Continued from page 2)

a member of the European Theater general board which evaluated the combat lessons of the war. Later he served as assistant to the director of Personnel, ASF, and was a member of the G-1 Section, AGF.

Lieutenant Colonel William D. Duncan was S-3 of the 743d Tank Battalion in the H-hour assault landing on Omaha Beach and took command of the unit the same day. He commanded the battalion the remainder of the war, during which it supported the 1st Infantry Division on the beachhead, and the 30th Infantry Division from northern France into Germany, including the St. Lô breakthrough and the Ardennes offensive. He is now assigned to Plans Branch, Logistics Division, European Command Headquarters.

Colonel N. H. Vissering is now assigned to the Military Planning and Intelligence Division, Office of the Chief of Transportation. From 1941 to 1944, he coordinated army sea movement of freight and organized the Ocean Traffic Branch, OCT. From January 1944 to June 1945, he was Land Movements Planner in the G-4 Division of SHAEF, and from July 1945 to July 1947 was Deputy G-4 for the ETO. Until recently, he was assigned to the Office of the Assistant Secretary of the Army.

Major Leroy E. Wade is a graduate of the School of Military Government and military government courses of the Provost Marshal General's School, Stanford University, and the University of Chicago. He served with the Military Government Section of the 25th Infantry Division in 1945, and later was Acting Executive of the Industrial Division, Economic and Scientific Section, General Headquarters, Supreme Command for Allied Powers, in Japan.